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Tobacco

BRUCE FINK



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TOBACCO

BY

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CONTENTS

	PAGE
INTRODUCTION	5
BOYS AND TOBACCO.....	11
TOBACCO AND DELINQUENCY AMONG BOYS.....	18
EXPERT VIEWS REGARDING TOBACCO.....	22
THE CIGARETTE IN PARTICULAR.....	32
TOBACCO AND DEGENERACY.....	39
THE ATTITUDE OF BUSINESS TOWARD TOBACCO.....	45
THE MONEY SPENT FOR TOBACCO	53
THE RELATION OF TOBACCO TO OTHER DRUG HABITS.....	60
TOBACCO IN COLLEGES AND UNIVERSITIES.....	67
THE SMOKING MAN AND HIS INFLUENCE.....	81
DIET AND THE TOBACCO HABIT.....	89
HOW TO COMBAT TOBACCO.....	95
SUMMARY AND CONCLUSION.....	107
BIBLIOGRAPHY.....	111

INTRODUCTION

Tobacco belongs to the genus *Nicotiana*, which contains about fifty species and many varieties, and is a member of the poisonous nightshade family. *Nicotiana tabacum*, with its many varieties, is the source of nearly all commercial tobaccos. The varieties differ considerably with respect to the amount of nicotine present, but they all contain more or less of this poisonous alkaloid and other irritating or poisonous principles. Nicotine, pyridine, picoline, lutidine, collidine, and other volatile and poisonous alkaloids have been found in tobacco smoke. Furfural, an aldehyde said to be fifty times as poisonous as alcohol, and acrolein, another very irritating aldehyde, are now known to be by-products of certain forms of smoking, and are probably developed through combination of certain elements present in tobacco with glycerine, sugar, licorice, saltpeter, or other substances introduced, especially in the manufacture of cigarettes. The study of the poisonous alkaloids and aldehydes present in tobacco or developed in smoking is, like most other branches of organic chemistry, in its infancy, and further studies will enable us to understand better just why tobacco has whatever effect it does have upon the user.

However, we are not especially interested in tobacco from the botanical side, or even from the chemical point of view. One may know by experience, by observation,

or by scientific study, the effects of tobacco on the human being without going into the chemistry of the matter extensively. Whether experience is a safe way to ascertain the merits of tobacco will appear as we proceed. Whether human interests demand a continued increase in production and consumption of tobacco, or a cessation of these practices, the reader may conclude after reading the expert testimony to follow.

That nicotine and the other alkaloids in tobacco are poisonous enough to kill in small doses has been demonstrated many times. Indeed, they are among the most poisonous substances known to the medical profession or to chemical science. The question that interests us is whether the tobacco addict escapes all of these. Of the little-known aldehydes, furfural and acrolein, Dr. D. H. Kress, Thomas A. Edison, and the European experts tell us that the former acts powerfully on lung tissue and induces pulmonary tuberculosis, while the latter causes permanent degeneration of the cells of the nervous system, including those of the brain, and thus weakens the mental faculties. These experts think that the cigarette smoker may suffer even more from these two aldehydes than from all of the poisonous alkaloids. In the data to follow much has been charged to nicotine, for which other alkaloids and the aldehydes are in part responsible; but it is, after all, the combined effect of all of these that interests us mainly rather than the technical aspects of the problem.

Like many other persons, the writer has had an opinion about the tobacco problem, based on observa-

tion and some study for many years; but only recently has he given the matter careful study. In his first article occurs the following passage: "A majority of mature men, whether they use tobacco or not, will admit that one is better off without it. Most fathers will think seriously on this question if they have sons of their own, especially if these sons are nearing manhood. The habit is expensive, offensive to many people, and injurious to the health of many men. As a father, I hold that no meeting should invite my boy and place this temptation before him in such a way that he will feel that the habit is popular and countenanced as a good thing."

During an experience of more than a quarter of a century as a student and a teacher in colleges and universities, I had felt that these institutions, in holding "smokers" and in popularizing a habit of doubtful merit in other ways, were doing a seriously questionable thing. However, I knew well enough that my opinion could have little value until I had given the subject careful consideration.

Many of our best and most able men use tobacco. Though nearly all of these men will admit that the drug has injured their health and decreased their power of accomplishing good work, they continue in large numbers to set the example before their own boys and those of other people, while some of them are sensitive about any statement regarding the questionable nature of their indulgence. One may discourse about alcohol, morphine, cocaine, or opium without being charged with eccentricity by anyone whose opinion is worth

while. But we have become so accustomed to tobacco that we scarcely give a thought to the importance of the problems involved in its enormous consumption. Consequently, commendation of tobacco would be a most pleasant duty, while criticism of it is a most unpleasant one.

However distasteful the task may be, the inroads that tobacco has made into institutions of higher learning and into the public schools, as well as the surprising extent to which it has taken possession of other citizens of various ages and both sexes, require that as much publicity as possible should be given to the results of careful observation and scientific study of the tobacco habit.

In what follows, a good deal of attention is given to the results of careful studies of conditions found in various educational institutions, partly because the writer has had this matter thrust upon him as a teacher of boys and young men from the grammar grades to the graduate student, partly because many of the most valuable studies are those made in connection with schools of various grades, but mainly because whatever is accomplished must be done through such a systematic campaign of education regarding the effects of tobacco-using as may give us in time a generation that will have an enlightened conviction regarding the real nature of tobacco. This campaign must be carried on through public schools, colleges and universities, various civic and religious organizations, and it must finally succeed through an enlightened public sentiment.

The conditions existing in colleges and universities

show either great ignorance of the effects of the habit, or inexcusable carelessness regarding the issues at stake; but the most deplorable results occur when boys of high-school age begin to use tobacco. For the conditions found among boys and young men, older men, many of them teachers in public schools and colleges, are largely responsible in one way or another. Finding this to be true and having examined abundant statistics which showed much worse results than had been suspected, there seemed to be no possible justification for giving up the work without laying bare more of the deplorable facts found. This has been done, not with the thought that one person can accomplish much, but rather for the purpose of interesting others and showing how we may organize forces for the fight against the tobacco habit, which many careful workers think is the greatest drug evil confronting modern civilization.

Since college students in fraternity houses and elsewhere are popularizing tobacco, since many fraternities cannot even entertain ladies without inflicting tobacco on them, since alumni of these institutions, in their social gatherings, place cigars and cigarettes before unsuspecting undergraduates, and since members of faculties indulge in the presence of students and prospective students, the wonder is not that a college man here and there is giving serious attention to this matter, but rather that many institutions have paid so little heed to their responsibility with respect to tobacco. Knowing from observation, that conditions were scarcely better in the public schools and throughout

country districts, villages, towns, and cities, a sense of responsibility, especially as a teacher of young men, led the writer from one study to another, until many phases of the tobacco problem had been covered.

The first studies leading to the present volume were undertaken as chairman of a committee advisory to President R. M. Hughes, of Miami University. These, published in September, 1913, primarily for Miami students, have been called for in various high schools and colleges in considerable numbers, and contain hard facts which should convince any serious-minded college student or college professor that he is, to say the least, treading a doubtful path when he takes up the tobacco habit, or when he encourages another in it if he already has acquired it himself.

This volume is based more directly on *The Tobacco Habit*, twenty-five hundred copies of which were published in 1914. The work was called for in large numbers, and the requests reached the full number of copies within eight months of the time of publication. On account of the demand for literature of a similar nature, the present volume was undertaken. Some of the less important matter included in the previous publication has been replaced by important items that were found in the interim. The selection of material was made from a large amount of literature examined, and it is hoped that this volume will be found considerably more valuable than the one published a year ago.

The quotations which follow are taken from responsible persons, to whom thanks are due for the privilege of using many valuable statements.

BOYS AND TOBACCO

The campaign against tobacco must be one of education, directed mainly toward saving the boys from its effects. The vice is commercialized, and has gained such force that the fight will be a long and strenuous one, to which many persons must devote their best energies. Sentiment must be aroused in every community so that many will aid in the work and see that the laws are enforced while the instruction goes on.

We hope to give enough evidence to prove that no boy should begin to use tobacco; and what will appear below could be multiplied many times. We will not review here any evidence from medical experts, but will reserve that for later pages. Nor will we reach here the consideration of delinquency and degeneracy, or the growing hostility of business toward tobacco; but will only consider a few of the statistics gathered from the studies of superintendents, principals, and teachers in the public schools.

A careful study of the effect of tobacco on high school boys at Highland Park, Illinois, is given in *The School Review*. Not a single graduate of the school was a habitual smoker while in school. The 45 quitters were all smokers and in poor standing in their classes, their average grades being below the passing mark. The average grade of 77 non-smokers was 84 per cent, of 24 reformed smokers 79 per cent, of 55 smokers 76

per cent. The grades of those who had recently learned to smoke had fallen from 85 per cent to 78 per cent. One boy who was smoking heavily quit, and his grades came up 10 per cent within six weeks. Principal R. L. Sandwick gives some excellent arguments with his statistics. We will consider more startling statistics from other sources, but none which indicate more clearly a direct relation between the tobacco habit and poor scholarship.

The United Presbyterian has published the following from statistics compiled by H. L. Smith, Superintendent of the Bloomington, Indiana, schools:

RETARDATION

GRADES	Average age of smokers	Average age of Non- smokers	Excess age of smokers
First	9.17	7.58	1.59
Second	9.66	8.51	1.15
Third	10.68	9.36	1.32
Fourth	12.6	10.55	2.05
Fifth	14.22	12.21	2.01
Sixth	13.62	12.42	1.20
Seventh	14.67	13.32	1.35
Eighth	15.12	14.65	.47

HIGH SCHOOL

Ninth	16.47	15.55	.92
Tenth	16.75	16.17	.58
Eleventh	18.	17.27	.73
Twelfth	17.55	17.22	.33

CONCLUSIONS

1. "Smokers are distinctly older than non-smokers, having failed in their work much more frequently.

2. "Smokers are doing distinctly poorer work than non-smokers.

3. "Smokers are disciplined much more frequently and for more serious offenses than non-smokers."

Professor Smith also found that non-smokers failed in 10 per cent of their work, occasional smokers in 18.7 per cent, and habitual smokers in 29 per cent. The number of pupils involved in the investigation was 950, and the figures are so significant that they should convince every boy, every parent, and every educator. The results are doubtless in part directly due to inferior character, or to some condition of environment of the boy who uses tobacco; but in any case, no self-respecting, high-minded boy will want to be found in such company after the facts are placed before him.

An article by P. L. Lord published in the New York School Journal, gives the results of investigations on 200 boys who smoked cigarettes and an equal number who did not. The reports were made by 10 teachers, who observed boys from 10 to 17 years old, chosen by lot in their schools, studied them for several months, and reported to Mr. Lord impartially. Whatever the relationship between the cigarette habit and the astonishingly bad showing made by boys who had the habit, a study of the tabulation below should arouse every boy worth saving, every parent who cares for his boy, every teacher, and every man who sets the example of smoking. The following is Mr. Lord's tabulation of the appalling relations:

	Smokers	Non-smokers
Nervous	14	1
Impaired hearing.....	13	1
Poor memory.....	12	1

	Smokers	Non-smokers
Bad manners.....	16	2
Low deportment.....	13	1
Poor physical condition.....	12	2
Bad moral condition.....	14	0
Bad mental condition.....	18	1
Street loafers.....	16	0
Out nights.....	15	0
Careless in dress.....	12	4
Not neat and clean.....	12	1
Truants	10	0
Low rank in studies.....	18	3
Failed of promotion.....	79 times	2 times
Older than average of grade.	19	2
Untruthful	9	0
Slow thinkers.....	19	3
Poor workers or not able to work continuously.....	17	0

Superintendent H. D. Hervey, of Malden, Massachusetts, obtained, with the aid of his teachers, the following convincing statistics on relative physical, mental, and moral conditions of smokers and non-smokers in his schools:

	Smokers	Non-smokers
Undersized	15	2
Weazen	12	1
Unkempt	17	0
Sallow	20	0
Weak	12	0
Often sick.....	10	1
Headache	14	1
Sore eyes	7	0
Lazy	34	0
Nervous	22	1

MENTAL CHARACTERISTICS

	Smokers	Non-smokers
Dull	24	1
Unable to think at times.....	31	0
Mentally dwarfed.....	12	0
Incapable of sustained attention	35	0
Poor memory.....	26	0
Poor reasoning powers.....	29	1

MORAL CHARACTERISTICS

Weak of will.....	32	1
Coward	15	0
Liar	16	0
Degenerate	7	0
Vulgar	12	0
Influence bad.....	15	0
Disobedient	18	1
Disrespectful	11	0
Truant	16	0

We quote as follows from Mr. Hervey's conclusion: "Boys may use tobacco because they are physically and mentally weak and morally unsound, or they may become physically, mentally, and morally impaired because they use tobacco, or each factor may be partly cause and partly effect. In any event, the results of this study would seem to indicate that a close connection exists between low mentality, physical weakness, moral delinquency, and cigarette smoking. If this be true, the cigarette, far from being the sign of manliness and of superior intelligence, should be regarded as the badge of the physical weakling, the mentally incompetent, and the morally unsound."

Superintendent Hervey also gives the following data regarding 40 smoking and 40 non-smoking pupils, chosen by lots from the grades and the high school. The statement involves items not in the table above "The average age of the smokers was 13 years, 2.9 months, and the non-smokers 11 years, 9.37 months. From this it would appear that those who use tobacco are one year, 5.5 months older for their grades than are those who do not use tobacco. The cause for this will appear more evident later on. The average height of the smokers was 55.87 inches, while for the non-smokers it was 56.1 inches. That is, notwithstanding the fact that those who do not use tobacco are almost a year and a half younger, they actually average .23 of an inch taller. From a table prepared by Dr. Franz Boos, showing the average height of 45,151 boys in Boston, Saint Louis, Milwaukee, Worcester, Toronto, and Oakland, the 40 smokers were 1.13 inches shorter than they should be for their age, while the non-smokers were about 2 inches taller than the average. The average weight of the smokers was 85.45 pounds and of the non-smokers it was 81.92. According to the table of Dr. Boos, boys of the age of the smokers should weigh 82.8 pounds, and boys of the age of the non-smokers should weigh 72.2 pounds. From this it would appear that, while the smokers weigh 2.62 pounds more than the average, the non-smokers weigh 9.72 pounds more than the average, a difference of 7.1 pounds in favor of the non-smokers. Of the smokers, 33 had normal vision and 6 had poor vision, while of the non-smokers all had normal vision. Of the smokers, none stood

excellent in his studies, 2 ranked as good, 12 as fair, 26 as poor. Of the non-smokers, 15 ranked as excellent, 14 as good, 11 as fair, and not one as poor. Of the smokers, 8 had failed of promotion once, 14 had failed twice, 8 had failed three times, and 1 four times, making a total of 64 failures. In other words, 31 boys out of the 40 had failed of promotion one or more times."

Hundreds of statements regarding the injurious effects of tobacco on boys could be quoted, but nothing could be added to the evidence contained in the data from the various studies given above. The facts stated should be sufficient to keep any boy who cares for a good, strong character from entering the ranks of the smokers.

TOBACCO AND DELINQUENCY AMONG BOYS

Cigarette smoking is, for the most part, the way in which boys use tobacco. Therefore, what is given here will be largely directed against this most dangerous form of the tobacco evil. There are many ideas of the effects of the cigarette. They have been ascribed to the poison in the paper, to poisonous substances put into the tobacco, and to the quality of the tobacco used; but all of these views are partly incorrect. The form of the cigarette and the looseness of the tobacco in it lend themselves to inhaling. This in turn sends the tobacco through a large part of the respiratory tract and greatly increases the area from which the poisonous substances in tobacco are absorbed.

There is probably no greater drug curse being forced upon humanity than the cigarette trade; and yet we complacently watch the effect of the tobacco trust to put the cigarette into the mouth of every boy and every young man, often in criminal violation of law. These young persons usually know not that many experts regard their tobacco-inhaling vice as deadly as opium using, and go thoughtlessly on, sometimes encouraged by men who need informing on the subject quite as much as do the boys.

George Torrence, former superintendent of the Illinois State Reformatory, writes thus: "Of 278 boys

between the ages of 10 and 15 in the Illinois State Reformatory, when the investigation was made in 1899, 92 per cent were found in the habit of smoking cigarettes at the time they were committed. Even more astonishing is the fact that 85 per cent had so become addicted to their use as to be classed at this time as cigarette fiends."

Magistrate Leroy B. Crane, of New York City, says: "Out of 300 boys brought before me charged with various crimes, 295 were cigarette smokers. This surely goes to prove that the boys who do not smoke do not stray into the path that leads to the police court. Congress should stop the manufacture, sale, and importation of cigarettes. Ninety-nine out of 100 boys between the ages of 10 and 17 years who come before me charged with crime have their fingers disfigured by yellow cigarette stain. I am not a crank on this subject. I do not care to pose as a reformer, but it is my opinion that cigarettes will do more than liquor to ruin boys."

Dr. B. Broughton, in charge of opium fiends and other narcotic patients in the Keeley hospital, at Dwight, Illinois, says: "More young men are led to the opium habit by cigarette smoking than by patent and proprietary medicines. Sixty per cent of all males under forty years of age, treated at Dwight for opium, morphine, or cocaine using, in 1896, had been smokers of cigarettes, and 60 per cent of these had no other excuse than that they needed some stimulant more than the cigarettes furnished them."

Dr. L. Bremer, formerly physician at the Saint

Vincent Institution for the Insane, at Saint Louis, once said: "There is an alarming increase of juvenile smokers, and, basing my assertion on the experience gained in private practice and at the Saint Vincent institution, I will broadly state that the boy who smokes at seven will drink whisky at fourteen, take to morphine at twenty-five, and wind up with cocaine and the rest of the narcotics at thirty and later on."

The boy's judge, the well-known Ben Lindsey, says: "One of the very worst habits in boyhood is the cigarette habit. This has long been recognized by all the judges of the courts that deal with young criminals and especially by judges of police courts, before whom thousands of men appear every year who are addicted to intemperate habits. These judges know that in nearly every case the drunken sots who appear before them, a disgrace to their parents, themselves, and the state, began as boys smoking cigarettes. One bad habit led to another. The nicotine and poison in the cigarette created an appetite for alcoholic drink. The cigarette habit not only had a grip upon them in boyhood, but it invited all the other demons of habit to come in and add to the degradation that the cigarette began."

These quotations show the relation of the cigarette habit to other drug habits and agree with expert opinion to be given later. Superintendent C. B. Adams, of the boys' Industrial School at Lancaster, Ohio, has said: "In this institution we have over a thousand boys, most of whom were cigarette smokers at the time they were committed here. I do not mean to say that they

were committed for smoking cigarettes, but most of them had the habit. I believe that cigarettes are injurious in every way: they dwarf the boy, dull the intellect, and numb the sense of good morals. Boys having this habit do not seem to appreciate the difference between right and wrong. After these boys are committed here and consequently have no further opportunity to smoke, they seem to take on a better moral tone. Cigarette smoking is indirectly responsible for a great deal of crime and the cause of a large number of boys being sent to this school."

More evidence could be given of the responsibility of tobacco for these evils among boys, but the above statements from experts seem sufficient.

EXPERT VIEWS REGARDING TOBACCO

In running through a large amount of literature from various sources of special study, not a single article has been found, written in the last twenty-five years, that does not condemn tobacco to a greater or less degree. A small proportion of experts state that when used by men in moderation, tobacco produces no bad effects that can be measured; but these writers do not state that there are no bad effects and always advise against the habit. Scientific results given below show that there are always bad effects, in proportion to the amount used, varying with the constitution of the user. Finally, all authorities strongly condemn the use of tobacco in any amount among boys, and nearly all are strongly against its use by men. We probably could produce no recent expert authority that would openly and unqualifiedly advocate the use of tobacco for anyone. Experts believe that a large part of the high death rate for men of about fifty years is due to tobacco. The careful studies of six Canadian insurance companies find the mortality rate for smokers to increase in about the same proportion as for drinkers. This will surprise many, but here are the figures:

	Abstain- ers	Rare users	Temper- ate	Moder- ate
Tobacco	59	71	84	93
Alcohol	57	72	84	125

Notice that no figures are given for tobacco fiends, who are seldom taken as risks. Yet where is the man who wants to take the chances represented by these figures, prepared not by reformers, but by business concerns that need to know the facts? One insurance company has estimated that the use of tobacco shortens life on an average of eight years.

Dr. T. D. Crothers says in *Life and Health*: "Accounts of persons who have used tobacco for years without injury are found on examination to be untrue. It is doubtful if any person who uses tobacco continuously is not enfeebled in mind and body, although the damage may not appear from a casual examination."

Dr. L. Bremer, late physician to the Saint Vincent Institution for the Insane, Saint Louis, Missouri, says: "Many smokers who are told that tobacco is at the bottom of their ailments expect that with abolishing the cause, the effect will cease immediately. The mischief done by a chronic disease of any kind takes months, nay years, to undo by strict hygienic living."

The following from Wood's *Materia Medica* is a fair sample of statements to be found in hundreds of medical works: "Nicotine is one of the most powerful poisons known. A drop of it in a concentrated form was found sufficient to kill a dog, and small birds perished at the approach of a tube containing it."

M. Orfila, former president of the Paris Medical Academy, says: "Tobacco is the most subtle poison known to the chemist, except the deadly prussic acid."

The late Dr. J. W. Seaver, of Yale University, writes as follows: "Somebody has said that, in the combus-

tion of tobacco in smoking, the nicotine is entirely destroyed, broken up to oils and acids, and that the nicotine itself is not taken into the system. The combustion of tobacco under ordinary conditions does not destroy the drug. Kissling recovered 52 per cent of it from the smoke of a sample containing 3.75 per cent of nicotine and from another sample 84 per cent."

Dr. Charles L. Hamilton, of the Leslie E. Keeley Co., says: "Tobacco smoke contains, in addition to the nicotine, various deleterious substances, such as pyridine, lutidine, cyanogen, and about 9.3 per cent of carbonic acid gas. Hence, persons who smoke tobacco get not only the harmful effects of nicotine, but an exceedingly irritating oil, several harmful gases, and particularly carbon dioxide, which is known to be very deadly when inhaled." Dr. Hamilton has not attempted to name all the poisonous substances in tobacco, but only a few of them.

Dr. L. E. Keeley, the expert on the effects of tobacco, says: "Tobacco enfeebles digestion, produces emaciation and general debility. It lays the foundation for nearly every nervous disorder now common to the American people. It produces amaurosis and color-blindness, epilepsy, bronchitis, rheumatism and asthma, dyspepsia and catarrh, tobacco heart, and cancer of the stomach."

The following admissions of the tobacco trade are from E. A. King: "A very significant statement is made by Cope's Tobacco Plant, a journal of the trade. It says: 'Few things could be more pernicious to growing youths and persons of unformed constitution than

the use of tobacco in any of its forms.' Another writer testifies that the smoking of the cigarette lowers vitality, lessens bodily vigor, unfits the victim for concentrated study, and is usually associated with low morals and with the practice of other vices."

Dr. Solly, surgeon of Saint Thomas Hospital, England, and an expert in diseases of the brain and the nervous system, says: "I know of no single vice which does so much harm as smoking. It is a snare and a delusion. It soothes the excited nervous system at the time, to render it more irritable and feeble ultimately. I have had large experience in brain diseases, and I am satisfied that smoking is a most noxious habit. I know of no other cause or agent that so much tends to bring on functional disease, and through this in the end to lead to organic disease of the brain."

The following extract is from an address delivered by Dr. G. F. Butler at Chicago: "In my work at the Detention Hospital, I find that licentiousness, resulting in venereal disease and alcoholism, is the principal cause of mental derangement. And one of the most pernicious incentives to improper indulgences is the excessive use of tobacco. Any agent which weakens the heart and so excites the brain as to make it impossible to concentrate the mind on one subject, as tobacco does in many cases, followed by failing memory, incontinuity of thought, nervous excitement with physical and sexual debility, and muscular tremors, is dangerous beyond all estimate, particularly for young people."

Regarding the supposed benefits of using tobacco,

Dr. Matthew Woods writes as follows: "Tobacco does not aid digestion. It does not prevent lean people from getting too lean, or stout people from getting too stout. It has no power to preserve the teeth from decay or to neutralize the poison of contagion. It is not a disinfectant. Nor does it enable the student to pursue his studies with safety in the dissecting-room because of some mysterious power it exhibits over the morbid odors and vapors of the deadhouse, as a recent writer has asserted. It is not a remedy for asthma, or indigestion, or any other diseased condition. And indeed, it may be safe to say that it does not do any one of the hundred and one harmlessly beneficent things it is popularly supposed to do, while we positively know that it does at times produce outright, serious disturbances of the heart, nervous system, and mucous membranes, while its use on the part of the patient also limits and diminishes possibilities of recovery in other diseases."

Dr. O. M. Stone, of Boston, writes thus: "The idea that tobacco prevents disease is an error. A tobacco user's chances of recovery from malignant disease are lessened fifty per cent."

Captain G. B. Pettingill, who was many years commander of vessels between Boston and Cuba, and Mexico and South America, has said: "Very few tobacco users recover from yellow fever. I once lost half my crew with it in Havana. Every man who died used tobacco, and every one who lived did not use it."

Dr. T. J. Harris, of the New York City dispensary, where more diseases are treated than in any other place

in America, says: "It is scarcely possible to cure a syphilitic sore, or to unite a fractured bone in a devoted smoker."

The noted Dr. John Lizars has said: "During the prevalence of cholera, I have had repeated opportunities of observing that individuals addicted to the use of tobacco are more disposed to attacks of that disease, and generally in its most malignant and fatal form."

In his book on Drugs and the Drug Habit, the well-known expert, H. Sainsbury, says: "The pungent smoke of tobacco is a local irritant, and a chronic form of congestion of the throat and larynx is a frequent result of excessive smoking; the smoker's cough and the smoker's voice are familiar. The smoke absorbed into the system, a gastric disturbance may ensue and a marked functional disturbance of the heart, characterized by a feeble, irregular, or intermittent pulse and a tendency to palpitation; sometimes attacks of heart-pain simulating the breast-pang of angina occur. The nervous system may show its intolerance of tobacco by a tremulousness and unsteadiness of the muscles; by attacks of giddiness, which, though in many cases referable to the gastric disturbance, are in other instances, seemingly, a distinct nervous effect: by neuralgias in various areas: possibly the attacks of heart-pain above-mentioned are of this nature. On the mental side the memory may suffer notably. Various severer affections have been attributed to tobacco excess, but the causation has not been established, and the occurrences have more probably been coincidences;

there is, however, one special nervous affection which is almost certainly assignable to tobacco poisoning, namely, impairment of sight, though it is doubtful whether even this ever leads up to true tissue changes, the amblyopia disappearing if the habit is checked.

"There can be no doubt that all forms of excess are more resisted by the tissues of the adult than by those of the child, for the growing child, when compared with the adult, must stand as a relatively unstable organism and be more at the mercy of every disturbing cause. This consideration has special weight in respect of tobacco, since the habit is apt to take root at an early age, when development is proceeding actively. Here is a matter of national importance, which should occupy the attention of those interested in the physical welfare of the race."¹

The following are further extracts on the effects of tobacco-using from the paper by Dr. T. D. Crothers in *Life and Health*. He says: "Though tobacco is one of the most widely used of narcotics, it is only recently that its poisonous effects have been carefully studied.

"Its first use is often followed by such toxic symptoms as pallor of the face, intense nausea, tremulous heart, and general muscular relaxation and prostration. Later, when it has been used for years, there is anemia, paleness, muscular trembling, with general nervousness and extreme debility. Though the signs which lead to the recognition of its effects are often obscure, and the degree of damage is frequently difficult to determine, it is certain that tobacco is ever a depressant

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and narcotic, and of necessity must injure the brain and nervous system.

"Its first effects are on the sensory nerves, diminishing the acuteness of sight, hearing, and taste. Persons who use their eyes in delicate and exact work find that tobacco injures them; and musicians who depend on the accuracy of their hearing in the recognition of sounds, very quickly give up tobacco, especially before doing any work that calls for accurate hearing. The ability to perform any work requiring delicacy of touch is lessened after the use of tobacco.

"Persons whose work does not require a careful exercise of the special senses may use tobacco for some time without observing any resulting injury. Later, however, nervousness appears in the form of trembling, agitation, and loss of control. Foolishly enough, many persons smoke in order to experience a certain steadiness, but later they complain of increased nervousness. Finally, the heart gives evidence of this continuous narcotic influence, in its irregular action and signs of exhaustion. When tobacco is withdrawn entirely, this heart condition improves, and many nervous affections disappear.

"Science proves with great positiveness that all use of tobacco is harmful, that it has no food value, that it gives neither strength, increased vigor, nor power to the user, and that its effects are depressant and narcotic in varying degrees, in some instances very marked, in others slow and concealed.

"The fascination of tobacco comes from its narcotism and its power to diminish discomfort and uneasiness,

and to lessen pain. The pipe or cigar always masks the bad feelings and the warnings of nature, and gives a false sense of security. It acts on the pain centers—the signal flags and warning voices of danger—by quieting them.

“Vitality and longevity are diminished; and in reality the tobacco user is literally discounting his future for the temporary gratification of the present. No man or woman can expect to succeed and develop the full power of the brain and nervous system who uses tobacco. This is not theory, but can be proved by careful observation and study of every person who is addicted to the habit.”

We cannot take space for more quotations, but medical records state that persons have been killed by sleeping in rooms where tobacco has been rasped, and that babies have been killed by tobacco smoke from the pipe or cigars of fathers. Women are often in ill health from tobacco fumes in their homes, and grown men are recorded killed from the fumes. Adult workers in tobacco factories are said to be often killed in four or five years by the tobacco fumes and dust, while boys often fall victims in a few months. These are strong statements, but he who cares to take the trouble can verify them from medical records.

The volumes of evidence like the quotations above cannot be refuted. Some men attempt to justify the use of tobacco; but he who asserts that his tobacco is not injuring him is, according to rapidly growing evidence, doing so in face of the fact that his habit is one of the greatest offenses against humanity. Tobacco

is popular, and it is easy to drift with the current. But the campaign of education will some day turn the world against the vile and poisonous drug.

Definite tests which prove that muscular and mental power are decreased to a measurable extent every time one uses tobacco appear later in this book. So the matter need only be mentioned here.

THE CIGARETTE IN PARTICULAR

We have already considered the cigarette evil somewhat in dealing with the effects of tobacco upon school boys and with delinquency among boys. The cigarette will again share our attention when we reach the problems of tobacco and degeneracy, the attitude of business toward tobacco, how to fight tobacco, tobacco in colleges and universities, tobacco laws, and the relation of tobacco to other drug habits. As we take up these points one at a time, it will appear that the cigarette plays an important part in the evils of the tobacco habit, and particularly will it become apparent that the cigarette is responsible for a large part of the increasing hostility of business toward tobacco.

We must now give attention mainly to the views of medical authorities and other experts regarding the effects of the cigarette habit, leaving largely those incidental features which have received, or will later receive, attention. Here will be reproduced the expert testimony which indicates that the boy or the young man who thinks that the cigarette habit is not injuring him, and often leading him on to licentiousness, crime, and other drug habits does not know the nature of the evil which he is permitting to get possession of him.

Dr. J. H. Kellogg, of the Sanitarium of Battle Creek, Michigan, says: "We should remember that there always is present in cigarettes nicotine, a far more

deadly poison than opium.” And tobacco contains several other poisonous substances, some of them perhaps as deadly as the nicotine.

George Torrence, Superintendent of the Illinois State Reformatory, writes thus: “I am sure cigarettes are destroying and making criminals of more boys than the saloons. Cigarettes are not the effect of crime, but they are the cause of it.”

Mrs. Angstman tells of “one youth in a preparatory school who often smoked sixty cigarettes a day, and who became so impregnated with nicotine that one day after playing ball he was startled to find his perspiration had made his undergarments as yellow as if dipped in dye.” Others have written of leeches that dropped dead after sucking blood from the arms of such persons. These facts give some idea of the amount of poisonous substances that may accumulate in the system of one who uses tobacco.

E. A. King says, in his paper on *The Cigarette and Youth*: “The ‘accomplished’ cigarette smoker is not content with a single puff of smoke, but he draws the smoke into the depths of his lungs, holds it a moment, and then expels it through his mouth and nose. The poison is thus allowed to penetrate to every portion of the lung cavity, and by absorption is taken into the blood.”

Charles B. Towns, the expert on the effect of drug habits, has said: “The cigarette smoker almost invariably inhales, and he gets the most harm merely because the bronchial mucous membrane absorbs the poison most rapidly. The tobacco itself is no more

harmful than it is in a pipe or a cigar. Furthermore, the tobacco is generally drier in a cigarette, and for that reason the combustion is better, for the products of the combustion of dry and damp tobacco are not the same. But since it is a little difficult to inhale a pipe or a cigar without choking, the smoke products of a pipe or cigar are usually absorbed only by the mouth, nose, and throat, whereas the inhaled smoke of the cigarette is absorbed by the entire area of windpipe and bronchial tubes.”¹

Dr. A. C. Clinton, San Francisco, California, physician to several boys' schools, says: “I am often called to prescribe for palpitation of the heart. In 9 cases out of 10 this is caused by the cigarette habit. Cigarette smoking gives boys enlargement of the heart, and it sends them into consumption and to the insane asylum. I have seen bright boys turned into dunces, and straightforward, honest boys made into cowards by cigarette smoking. I am speaking the truth that nearly every physician and teacher knows.”

Professor W. L. Bodine, of the Chicago Public Schools, puts it thus: “Last year the medical inspectors of schools, over whom I have jurisdiction, were assigned to make examinations of the young men who were members of the baseball and football teams in the various high schools; we also examined the young women of the basketball teams. All the young women passed a successful examination, but many of the young men athletes were rejected because it was found they had valvular heart trouble. Each of the young men

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so rejected (with but one exception) was addicted to cigarette smoking."

Managers of baseball clubs are becoming more and more pronounced in their opposition to the use of cigarettes. What is quoted below from Clark Griffiths, manager of the Washington Nationals, is very similar to statements that have been made recently by several other managers. Mr. Griffiths expresses himself thus: "I am convinced that our failure to come up to expectations this season has been largely due to the fact that some of the players on whom I depended were cigarette fiends. There will be no more of it. Any player who insists on smoking cigarettes is through, so far as the Nationals are concerned, and that goes so long as I am manager of the team. No man in athletics for a living can use them."

Dr. Herbert Bishop, surgeon of the U. S. Mutual Accident Association, says: "I have seen death from inhaling cigarettes, and persons incapacitated for business and made wrecks. It is explained in this way. The smoke, when inhaled, is brought in contact with over 500 cubic feet of surface in the lungs, with immense facilities for absorption, and at once the nicotine is deposited in a fruitful field and incorporated in the blood."

E. A. King, in his paper on The Cigarette and Youth, has said: "A leading journal of Philadelphia describes the way material is secured for making cigarettes: Scavengers go around to saloons and barrooms, picking up stubs of cigars and raking over the contents of spittoons for rejected quids of tobacco. These are

thrown into a sack and carried to the manufactory, where they are cleansed, ground up, sprinkled with liquor, Havana flavoring and other chemicals added, and allowed to stand till the whole mass is permeated with the flavoring. It is rolled up in its paper wrapping, and becomes the cigarettes considered so dainty."

Mr. King goes further and states on the authority of a physician who has investigated that opium, valerian, *Cannabis indica*, and other appetite-producing drugs are used to a large extent in making cigarettes. The instance of an Italian boy is cited, who is said to have been arrested with a basket half full of cigarette and cigar stubs, which he confessed he intended to sell to a man at ten cents per pound. Since becoming interested in the matter, the writer has observed men in our large cities stealthily picking up cigar stubs from the gutters and sidewalks and placing them in their pockets. Suspicions were aroused concerning the purpose of collecting them, but no investigation was made.

Regarding the use of drugs in the manufacture of cigarettes, at least at the present time, there seems to be serious doubt. Nor does there seem to be any carefully conducted analyses to prove that drugs have ever been used in making any standard varieties of cigarettes.

Replying to Mr. Azor Thurston, who has recently examined cigarettes to ascertain whether drugs are used in any of the standard makes, Dr. H. W. Wiley says: "So far as I know, opium, arsenic, etc., have never been found in cigarettes. This is a rumor which

is constantly being floated, but is without general foundation. The cigarettes are harmful enough in themselves without seeking this extreme evil in them." This statement from the pure food expert should surely carry considerable weight.

Mr. Thurston himself carried on careful analyses. He says in conclusion: "The current report is that cigarettes contain opium or some form of dope; however, the brands that I examined were free of added medicinal substances, barring calcium, magnesium, and nitrates found in the papers."

We do not publish these statements about the character of the tobacco said to be sometimes used in cigarette-making and the opiates which may be introduced in the manufacture, because we regard this a very important item compared with the deadly nature of the nicotine and other poisons inherent in tobacco or developed in smoking. If these foreign substances are not used, it is on account of the expense connected with their insertion or because of the law rather than because of any special regard that the manufacturer has for the consumer.

When we become so hardened to our evils that we will practice poisoning ourselves on a gigantic scale with some of the most deadly poisons known, who need object seriously to the introduction of one or two additional poisons into the manufactured product? Or how does the occasional taking of tobacco from the gutter to make cigarettes really compare with making men and boys the gradually-poisoned dupes of a gigantic trust? Yet we are not satisfied with the

gradual enervation of our own citizens. As soon as China had conquered her opium, according to experts no worse than tobacco, our tobacco trust is said to have begun the attempt to put the cigarette into the mouth of every Chinese citizen. It is easy to see in its true light an evil in far-off China, but comparatively few persons care to raise their voices against a very similar one at their own doors. However, the campaign of education is gathering force. The deadly cigarette is gradually bringing to light the true nature of tobacco, now quite tyrannical in its popularity, but one day to be condemned as opium and alcoholic beverages now are.

TOBACCO AND DEGENERACY

Many persons suppose that the effects of the tobacco habit cannot be inherited, and exact statistics on tobacco heredity would be difficult to obtain. There are so many other factors to complicate the study that exact data could not be obtained easily. Licentiousness, impurity, inebriety, and other forms of intemperance are often intimately related to the tobacco evil and act with it in such manner that it becomes difficult to ascertain just how much of our degeneracy to ascribe to each cause. Very probably some of the degeneracy ascribed to the tobacco habit in the quotations given below is due to other causes. However, the fact that the consensus of medical opinion, based on abundant record and observation, agrees that the children of tobacco-users suffer from increased susceptibility to disease, from nervous disorders, and from weak minds more than the offspring of abstainers, other things being equal, is sufficient reason why every man who knows these facts should not take the risk of hereditary effects of tobacco on his own progeny.

Some medical authorities say that noticeable degeneracy in some form or other always follows if the father has used tobacco a long time, and many physicians who have studied the matter agree that by inheritance persons who have never used tobacco suffer throughout life from the tobacco habit of fathers.

There is no agreement regarding inheriting the appetite for tobacco, and there is some doubt whether the appetite is transmitted. But there is the belief, based on abundant observation, that conditions of nervous degeneracy which cause the person to resort to a sedative are inherited, though the appetite may not be.

Dr. C. G. Davis, of Chicago, in a letter to the Anti-Cigarette League, wrote thus: "Western civilization is gradually but surely drifting into a condition of degeneracy. Out of this army of degenerates come the vicious, the criminal, and the insane. Practically speaking, mankind is becoming alcoholic and tobacco mad. The nervous system is crumbling, owing to saturation of alcohol and nicotine."

Dr. Charles G. Pease, president of the Non-smokers' Protective League, says: "The use of tobacco is responsible more than any other one factor for race degeneracy. It is the most poisonous plant grown, and its active principle the most poisonous alkaloid, harmfully and deeply affecting the delicate protoplasm of the tissue cells, unfitting the user of it to be a propagator of the human race, robbing his own children of their right to normality."

The noted Dr. Pidduck wrote thus in the London Lancet: "In no instance is the sin of the father more strikingly visited upon his children than in the sin of tobacco-using. The enervation, the hypochondriasis, the hysteria, the insanity, the dwarfish deformities, the consumption, the suffering lives, and the early deaths of children of inveterate smokers bear ample testimony

to the feebleness and unsoundness of constitution transmitted by this pernicious habit."

Dr. Nathan Allen, of Lowell, Massachusetts, says: "Language cannot describe the terrible effects which tobacco produces upon both body and mind. It perverts the taste, impairs mental capacity, corrupts the moral sense, and stimulates the animal nature. But its pernicious effects are not confined to the present generation, nor to this life. Its dreadful evils through the law of inheritance, extend to offspring even to the second, third, and fourth generation."

The New York Journal says of the introduction of tobacco into new territory: "When the Europeans first visited New Zealand, they found the natives the most finely developed and powerful men among the islands of the Pacific. Since the introduction of tobacco, for which these men developed a passionate liking, they have, from this source alone, become decimated in numbers, and so reduced in stature and physical well-being as to be an altogether inferior type of men."

Dr. D. H. Kress, the expert on the effects of tobacco, writes thus: "From the use of tobacco, most of our young men are physical degenerates. A few years ago England was startled by the announcement that out of 12,000 men that appeared for examination at Manchester, 9,000 had to be rejected as physically unfit for army service. 'They come to us with their fingers stained with nicotine,' the examiner said. A few years later, when the call was made for young physicians to enter the United States Army, 80 per cent were rejected as unfit, owing to what was pronounced tobacco

heart. These represented the choicest young men these countries could produce. If three fourths of the young men are unfit for army service, they are certainly unfit to assume the responsibilities of propagators of a fit race."

There can be no doubt that the nations of the world are using many degenerates in their vast armies. In times when many soldiers are required, the unfit are doubtless admitted to the ranks in large numbers. It is positively stated by *The Boys' Magazine* for February, 1915, that a single New York firm had recently distributed 10,000,000 cigarettes as a gift to the armies of Europe in the field. Other firms and individuals are said to have been giving cigarettes to the soldiers as an act of kindness, even in excess of the demand. European medical experts, like those of other countries, cry out against this harmful practice; but nothing except a long and strenuous campaign of education, such as that which is now bearing fruit in the fight against strong drinks, is likely to suppress the evil.

Dr. Charles E. Slocum says in his book on Tobacco and its Deleterious Effects: "The deep defects produced by tobacco on the generative system perniciously affect the germ plasm and germ cells and cannot but show blight, more or less, in the children that may be born of parents addicted to this vice. Tobacco, in some ways, even more than the alcoholic-beverage habit, touches forcibly the nerve centers, the medulla oblongata, the spinal center, the generative center, and the great sympathetic nerve centers, leaving therein its

trail of debility, defects, and degeneration, all of which affections are in line of transmission to posterity.”¹

The following statement is also from Dr. D. H. Kress, who has made a special study of tobacco-using: “Official statistics show that there is also a marked deterioration in the physique of the German nation. It is authentically stated that nearly one half of the young men in Germany between the ages of 18 and 21 are incapable of bearing arms. The prevalence of heart disease among the young has increased over 300 per cent within the last few decades. Tobacco and beer are considered the cause of this alarming degeneracy. A similar condition exists in America. It will be recalled that out of 67 applicants who appeared for examination to enter the medical department of the United States Army in 1902, 43 (nearly two thirds) were rejected, having what the doctors pronounced ‘tobacco heart.’ This is especially significant when we bear in mind that those who applied were young men who considered themselves in the pink of health. That such a condition exists in our most highly civilized countries is certainly sufficient reason for alarm, and should lead to a careful investigation of its causes with a view of correcting them. To ascertain the real injury to the race from such a habit, we must necessarily go to the third or fourth generation. We have reached that time, and the results of the tobacco habit are now manifest. As Sir Benjamin Brodie says, ‘No evils are so manifestly visited upon the third and fourth generations as the evils which spring from the use of

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tobacco.' Owing to the rapid decline of the race, special attention has of recent years been called, by leading medical men, scientists, religious teachers, and commissions appointed by various nations for the purpose of investigating the causes of the almost universal physical, intellectual, and moral degeneracy, to the fact that tobacco is responsible for what has, in the past, been attributed to other causes."

It is admitted readily enough that we are dealing with opinions mainly. But these opinions are from the highest authorities and are based on long observation and study. The man who passes over such evidence lightly, encourages young men and boys in forming the tobacco habit, and sets the example in their presence, is taking large responsibility. Unfortunately, few men, whether young or old, care enough about the good of the race to cause them to break with a habit known to be questionable and believed by an increasing number to be among the worst to which men become addicted, both for the individual and for his progeny. We must be content, in the main, to influence those who have not become enslaved by tobacco. The study of tobacco inheritance, with other features of the tobacco evil, will meantime go on. The increasing evidence of the baneful effects of tobacco will aid in the campaign of education until right will finally triumph. The human race will one day throw off its yoke of bondage and finally recover from the degeneracy produced by tobacco.

THE ATTITUDE OF BUSINESS TOWARD TOBACCO

While some business men have pronounced views against the employment of those who use tobacco in any form, the great objection thus far is to those who use cigarettes. It may surprise some persons to know that many of the large number of business corporations that bar cigarettes refuse to employ the man who uses them as well as the boy, if one may judge by the language of those quoted. What is reproduced below is the average of the statements found, and about half bar both the men and the boys who use cigarettes.

While our quotations are mainly opinions based on observations of business men, the scientific results based on measurements of blood pressure and fatigue accord with them to the extent of showing that one is weakened temporarily every time he smokes tobacco in any form. No one can be more surprised than the writer in finding so much objection to the use of tobacco, on the part of business concerns; but he must accept the value of their views, based on long observation, and present them impartially.

Greater was the surprise on finding records of deleterious effects that can be measured as a result of each separate indulgence in tobacco. Let us consider first statements which apply to physical labor. Dr. F. C. Walsh, in giving the results of measurements of

fatigue when smoking and when not smoking in experiments with the ergograph, says: "The test was decisive, and it proved this: that no man doing physical labor, and who smokes while on the job, is as efficient and as able to put forth his full energies as he could if he were not smoking." This shows the results from a new angle, and demonstrates that one should discriminate against him who works pipe in mouth, however menial the labor.

The late Dr. Jay W. Seaver writes thus of nicotine and muscular work: "The muscle cells are apparently only slightly affected by it, but the nerve supply to the muscles being affected, the practical motor ability is greatly impaired. This has been thoroughly demonstrated by experiments carried out by Dr. W. P. Lombard, of the University of Michigan, who has shown that the administration of even moderate amounts of tobacco in the form of smoke lowers the working power of the human muscle by a high percentage, and there seemed to be no compensation for lowered temporary ability in increased duration of it. His experiments were made with Moss's ergograph, and his results may be crudely summarized as follows: In from five to ten minutes after beginning to smoke an ordinary cigar, muscular power began to diminish, and in an hour, when the cigar was burnt, it had fallen to about 25 per cent of its initial value. The total work of the time of depression, compared with a similar normal period, was as 24.2 to 44.8 per cent."

The noted drug expert, Charles B. Towns, says: "If there were some instrument to determine it, in my

opinion, there would be seen a difference of 15 per cent in the general efficiency of smokers and non-smokers. The time is already at hand when smokers will be barred out of positions which demand quick thought and action." This supposition of Mr. Towns's is different from the decrease of efficiency while smoking "on the job";¹ but the results of smoking are certainly cumulative as relates to both mental and physical labor, since well-known tests of mental activity and published results relating to efficiency in athletic exercises and studies agree that the smoker is less efficient. Let us now consider statements of some firms that discriminate against boys who use cigarettes, then those that include men also. The mental and athletic tests will be given later.

The J. C. Ayers Company, Lowell, Massachusetts, says: "We do not employ any boy or young man under 21 years of age who smokes cigarettes."

Marshall Field & Co., Chicago, Illinois, stands thus: "We do not employ young men addicted to the use of cigarettes."

John V. Farwell once said: "I would as lief employ a youth who steals sheep as one who smokes cigarettes; one is no more to be trusted than the other."

James A. Houston Company, Boston, Massachusetts, says this of the cigarette and work: "Our reason for not employing juniors who are addicted to the use of cigarettes is that we feel that their habitual use by a young man is demoralizing to his general character."

The Larkins Soap Company, Buffalo, New York, ex-

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presses the matter thus: "We do not employ boys in the Larkin office who smoke cigarettes. An applicant addicted to the use of cigarettes would not interest us; but if he seemed to possess qualifications that made him desirable, he would have to decide between the cigarette and the job."

John R. Pepper, of the International Lesson Committee, says: "My observation as a business man has been that boys and young men who indulge in the habit of smoking cigars and cigarettes will very soon become discounted, and their places will very probably be filled by others of more careful habits. There can be no question that the use of cigars and cigarettes is positively detrimental to mind and body."

Superintendent W. L. Bodine, in charge of the Parental School of Chicago, tells of a tobacco dealer who discharged boys because of the cigarette habit and who actually rejected 38 of 42 boys who applied for positions, because they smoked cigarettes. The tobacco dealer said: "The boys of to-day are not what boys of ten years ago were, and it is due largely to the cigarette evil. They come here with their ill manners, stained fingers, and dopey-eyed cigarette face and cigarette breath; and they are saucy and dirty." This is from a tobacco dealer who would not hire a boy who used what the dealer sold.

The following railroad corporations, large business establishments, and others are said to be refusing to employ young men and boys who use cigarettes: Union Pacific Railroad; Lehigh Valley Railroad; Chicago, Rock Island & Pacific Railroad; Georgia Central Rail-

road; Burlington Railroad; New York, New Haven & Hartford Railroad; Pittsburgh & Western Railroad; Wisconsin West Superior Railroad; United States Navy and Naval Schools; United States Weather Bureau; Chicago Post Office; Marshall Field & Co., Chicago; Carson, Pirie, Scott & Co., Chicago; Heath & Milligan, Chicago; Montgomery, Ward & Co., Chicago; Swift & Co., Packing House, Chicago; Morgan & Wright Tire Co., Chicago; Western Union Telegraph Co., Message Service; Cumberland Telephone Co.; Wanamaker's, Philadelphia; Ayers Sarsaparilla Co., Lowell, Massachusetts. This list might be extended to include hundreds and probably thousands of other establishments.

Gurney Heating Co., Boston, says: "We believe our company gets better service from non-smokers, and to abstain from tobacco will be of inestimable value to the individual in later years, both from a physical and a mental standpoint."

The principal of the Metropolitan Business College, of Chicago, writes thus of the relationship between cigarettes and business: "The average employer is very much disinclined to employ a person who is addicted to the habit; in fact, there are several prominent concerns here that will not employ cigarette smokers."

Mr. E. H. Harriman, the railroad president, once said: "Cigarette users are unsafe. I would just as soon think of getting my employees out of the insane asylum as to employ cigarette users."

Vice-President Parker, of the Chicago & Rock Island Railroad, says: "In my judgment it is impossible for a

cigarette smoker to make a good railroad man. As a rule, smokers are dull and half asleep most of the time. These are not the kind of men the Rock Island wants to operate its trains and its great system, which is daily responsible for the lives of thousands of people."

The following, regarding the relation between the tobacco habit and obtaining employment, is taken from W. H. Allen in his book entitled, *Civics and Health*: "No young man expects to obtain a favorable hearing if he offers himself for employment while smoking or chewing tobacco. Business men dislike to receive tobacco-scented messengers. Cars and elevators contain signs prohibiting lighted cigars or cigarettes. Insurance companies reject men who show signs of excessive use of tobacco. Why? Because they are apt to die before their time."²

The George W. Alden Company, Ranges and Refrigerators, Brockton, Massachusetts, says: "We would not employ a man who smoked cigarettes if we knew he smoked them. Our reason is that with the prevailing knowledge as to the injury to the mind, body, and morals of the cigarette habit, a man who will keep on using them has not enough self-will to meet our standards, nor enough regard for personal appearance. Our observation of those who use cigarettes has led us to believe that the use of the same is one of the most degenerating of habits, and does more to weaken one's regard for good morals than any other habit."

An official of a railroad that will not employ more cigarette users says: "Among the 200 in my service, 32

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are cigarette fiends. Eighty-five per cent of the mistakes occurring in the office are traceable to the 32 smokers. They fall behind with their work, and when transferred to other desks, which men who do not smoke handle easily, they immediately get along just as badly, showing that it is not the amount of work but the inability or indolence of the performer. The smokers average 'two days off' from work a month, while the non-smokers average only one-half of a day in the same time. The natural conclusion is that the 32 young men are holding positions deserved by better men."

O. S. Marden, formerly editor of *Success*, writes thus of the relation of the cigarette to business: "Cigarette smoking is no longer simply a moral question. The great business world has taken it up as a deadly enemy of advancement and achievement. Leading business firms all over the country have put the cigarette on the prohibited list. In Detroit alone sixty-one merchants have agreed not to employ the cigarette user. In Chicago, Montgomery, Ward & Company; Hibbard, Spencer & Bartlett, and some of the other large concerns have prohibited cigarette smoking among all employees under eighteen years of age. Marshall Field & Company and the Morgan & Wright Tire Company have this rule: 'No cigarettes can be smoked by our employees.' One of the questions on the application blanks at Wanamaker's reads: 'Do you use tobacco or cigarettes?' "

The following is from the *Boys' Companion* for February, 1915: "Not long ago Thomas A. Edison and Henry Ford, auto manufacturer, issued edicts forbid-

ding any of the thousands of their men to use cigarettes, and henceforth no cigarettist will get a job in their shops because Edison and Ford have found out that the cigarette seriously interferes with the efficiency of the men's work. It is not a question of morals but of pure business with them."

The late Elbert Hubbard wrote thus regarding employing cigarettists: "As a close observer of men and an employer of labor for over 25 years, I give you this: Never advance the pay of a cigarette smoker—never promote him—never depend upon him to carry a roll to Garcia unless you do not care for Garcia and are willing to lose the roll. I say do not promote the cigarette smoker, for the time will surely come when you will rue the day you ever placed him in a position where he can plague you by doing those things which he ought not, and by leaving undone those things he should have done. If you have cigarettists on your payroll who are doing good work, do not discharge them. Simply keep them as long as they are a profit to you, and when you find they become a care gently lay them off, and say you will send for them when you need them. And then never send for them."

We have considered the general effects of tobacco and the cigarette in particular in previous pages and have tried to give here the business relation of the habit faithfully and candidly, as the facts seem to require. The main object is to help in saving some of those who are not addicted to tobacco. Let none of us be so sanguine as to think that we can accomplish much more than this for the present.

THE MONEY SPENT FOR TOBACCO

The amount of money spent in the purchase of tobacco by men addicted to its use is enormous, and the sum involved in the cultivation of the tobacco plant and its transformation into marketable products is vastly greater. Families are frequently deprived of homes of their own and of the comforts of life, not because of the high cost of living, but because the fathers spend, for smoking and chewing a weed that does no one any good, that to which the families have a right.

One five-cent cigar per day amounts, with interest on the money, to about \$250 in ten years, and five such cigars daily for the same time amounts to approximately \$1,200. Many men smoke from six to ten such cigars daily, spending from \$100 to \$175 per year. This amounts with interest from 25 to 65 years of age to about \$60,000 or from 25 to 80 years to approximately \$100,000. Many men, once the habit has been formed, will continue even when their families are dependent on charity for food and fuel. A vastly larger number smoke away good homes, and a still larger number deprive their loved ones of good clothing, furniture, books, music, and other things that go to make life enjoyable.

One writer says that our tobacco users spend \$950,000,000 annually for their tobacco, a sum \$250,000,000

more than all the people, at the same time, use for bread. We are said to give as a nation five times as much to tobacco as to religion, and it is said that some communities waste more on tobacco than they use for churches and schools. To our shame, these statements are probably not far from the truth.

Dr. C. E. Slocum says, in his book, *Tobacco and Its Deleterious Effects*: "Twenty per cent more money is expended for tobacco in America than for bread; and this comparison represents but a small part of the real cost of the use of tobacco."¹

Dr. D. H. Kress gives the following regarding the cost of tobacco: "Our annual tobacco bill amounts to \$940,000,000. Should three of our large cities be wiped out by fire each year it would be considered an immense loss, and yet the amount of tobacco annually consumed equals in value nearly the combined taxable property of Detroit, Cincinnati, and Buffalo."

Dr. Kress also says: "The United States is one of the greatest educational countries in the world, but for every dollar spent on education, over two dollars is spent for tobacco." Another writer says that, if we include the cost of production, manufacture, and sales, our tobacco costs \$7,000,000,000 annually. Who wonders that tobacco often pauperizes the working man and robs his wife and children?

Jenkin Lloyd Jones recently said in a sermon delivered before his great Chicago congregation: "According to the government report, 1,012,800 acres were devoted in 1911 to the production of the abominable

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weed which first, last, and all the time is a nuisance as well as a poison. And more than the prostituted acres and the exhaustion of human muscle in the production thereof is the blunting of the ethical sense, the narcotizing of the intellectual and social ambitions of the victim, who through the stultifying effects of the cigar loses something of the power of a high zeal for moral ideals and a divine hunger for the spiritual life."

F. H. King says, in *Farmers of Forty Centuries*: "What might be done in the United States with a fund of \$57,000,000 annually, the market price of the raw tobacco leaf, and the land, the labor, and the capital expended in getting the product to the men who puff, breathe, and perspire the noxious product into the air everyone must breathe, and who bespatter the streets, the sidewalks, the floors of every public place and conveyance, and befoul the million spittoons, smoking rooms, and smoking cars?"²

Henry W. Farnam, in *Our Tobacco Bill* published in 1914, gives the following facts and figures regarding the cost of a worse than useless habit: "The importance of tobacco in our national budget is shown by the latest census figures, according to which it ranks eleventh among the industries of the country, with respect to the value of the product. Our manufactured tobacco was worth at the factory in 1909, \$416,695,000. It thus outranked bread and other bakery products, women's clothing, copper, malt liquors, automobiles, petroleum, and distilled liquors. It was but about a third less important than manufactures of cotton. Its

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value was more than twice as great as that of distilled liquors.

"A careful statistician, Professor William B. Bailey, of Yale, published, nearly two years ago, some figures showing that the people of the United States spent at that time in a single year about \$1,100,000,000 on tobacco. As the receipts from the internal revenue tax on tobacco have increased by about 14 per cent in the last two years, it seems fair to assume that the general consumption has increased by this amount. Fourteen per cent of \$1,100,000,000 would be \$154,000,000. It seems, therefore, conservative to state that at the present time the people are spending at least \$1,200,000,000 for the pleasure of smoking and chewing.

"The significance of these figures can be best appreciated if we compare them with other items in our national budget. To put the matter concretely, tobacco takers spend in a single year twice the amount spent by the entire country on railroad travel and about three times the amount which it spends on its common school system; they pay out annually about three times the entire cost of the Panama Canal; they destroy directly about three times as much property as was destroyed in the San Francisco earthquake. Their smokes and chews cost them just twice what it costs to maintain the government of the United States, including the interest on the public debt. Our smokers in a year and a half could pay the entire bonded debt of our States, cities, and counties, as it was in 1912, and in an additional nine months the entire interest-bearing debt of the United States, if they were willing to exer-

cise the self-denial which was exercised years ago by the Persian people.

"The consumer is the ultimate director of national production. If he elects to drink whisky, instead of buying bread for his children, this means that the country produces more whisky and less bread. If rich men elect to take large tracts of arable land for game preserves, they prevent that land from being used to raise food for the people. Likewise, if smokers elect to spend a certain part of their income upon tobacco, they determine that a certain area of land shall be devoted to the cultivation of this plant, which would otherwise be devoted to the cultivation of vegetables or to dairying, or to raising whatever commodities their money would otherwise have been spent for. The amount of land thus pre-empted for the preserves of tobacco users in the United States is very large. It amounted in 1912 to no less than 1,225,800 acres or over one sixth of the area devoted to raising vegetables. The value of the tobacco product was \$104,302,856, or one quarter of the value of all vegetables, including potatoes. This must play no small part in maintaining the high cost of living in the United States. Tobacco culture, moreover, tends, as is well known, to exhaust the soil and thus to rob future generations, unless fertility is artificially maintained at great expense.

"Many people who are familiar with the significance of our drink bill do not realize that the amount annually spent on tobacco is about three quarters of the amount spent on intoxicating beverages of all kinds.

The national war budget is always the subject of much criticism, and yet the appropriations for our army and navy are less than one fourth what we annually spend on tobacco. For years the power of the government has been used to keep down the railroad rates, until it is claimed that the roads cannot pay the wages demanded by the men and give the public the service which it expects without an increase in charges. And yet an addition of but 25 per cent to passenger fares would mean but about one eighth of what the tobacco users spend without a thought, and would afford the railroads a welcome relief."³

The father who spends one fifteenth, one tenth or more of his income on tobacco often has no money for useful benevolences, to say nothing of the enjoyments of life for his family. Yet he should not charge the difficulty to other causes than his own habits. If religion could have the sum wasted on tobacco, there would need be no other calls. If the money were used for bread, no one would need to go hungry. If it were used for public schools and for higher education, we would, according to statistics, have twice as much as we now use, and this without any taxes or any begging for these purposes. If used for three years to pay debts, all city, state, and national debts would be wiped out. If spent on military affairs, we would have four times as much as is now spent on our army and navy. In short, a large majority of men of this generation use a drug which injures them physically, mentally, and morally, deprives their families of many comforts

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and luxuries, aids in causing degeneracy, and is so enormously expensive as to seriously interfere with general prosperity. We are too near to this evil to see it, but it will have to go. The present conditions cannot go on any more than the opium evil could go on forever in China. The great expense is bad enough, but other features are a thousand times worse.

THE RELATION OF TOBACCO TO OTHER DRUG HABITS

Under this heading we shall consider mainly how tobacco-using may lead to one or more other drug habits, but we may also notice briefly the necessity for fighting all drug habits instead of giving attention to one only. Our purpose is to give the most expert opinion and data that can be found regarding the danger of the tobacco habit; but this particular drug is only one of those which should be fought. Not very many of those who are fighting the liquor evil give any attention to tobacco, the use of which almost always precedes drinking, according to the experts. It is a popular thing to fight the drink habit, but it is now and will be for a longer or shorter time exactly the opposite with the tobacco evil. Yet some persons should bring out the relationship of these two and other drug habits. Those who are fighting tobacco are deeply interested in the temperance campaign, wish it the most speedy and complete success possible, and will aid in every possible way to this end. The data to follow prove that the campaign against tobacco is also a campaign against strong drink, since tobacco usually serves as an approach to the drink habit.

Herbert Corey, in the Cincinnati Times-Star, quotes a leading western distiller as follows: "Prohibition will be a national issue within ten years. Every intelli-

gent man in my business realizes that. The decent ones are guarding against it by trying to wipe out the dives. Already Western States have enacted anti-liquor legislation which would have been unthinkable ten years ago. The campaign against habit-forming drugs is gathering strength everywhere."

A New York City magistrate says: "Tobacco is the boy's easiest and most direct road to whisky. When opium is added, the young man's chance of resisting the combined forces and escaping physical, mental, and moral harm is slim indeed."

Dr. Mussey, an eminent physician, expresses his view thus: "In the practice of smoking there is no small danger. It produces a huskiness of the mouth which calls for some liquid. Water is too insipid, as the nerves of taste are in a half-palsied state from the influence of tobacco smoke; hence, in order to be tasted, an article of a pungent or stimulating character is resorted to, and thus the kindred habits of smoking and drinking."

Dr. T. Griswold Comstock, of Saint Louis, Missouri, states his opinion thus: "I believe cigarette-smoking is decidedly injurious to young persons, and I speak from professional experience. If a boy before the age of 14 smokes cigarettes, he will very probably be tempted to resort to alcoholic drinks before the age of 18 and at 21 will likely be addicted to the use of morphine. Cases of suicide among subjects under 38 to 40 years of age, the direct results of chronic intoxication from tobacco in the form of cigarettes, are found to happen and not so very infrequently."

Harold Hamilton, a reformed cigarette fiend and a prominent artist, is responsible for this paragraph: "The tobacco exhaustion needs the whisky exhilaration, and the cigarette victim keeps on alternating between the depression of tobacco and the stimulation of alcohol, which he seems to require. Both are ruinous to body and mind. Without fear of contradiction, I make the statement boldly that it is no more possible for an inveterate, poison-soaked cigarette fiend who has arrived at the third stage to continue his life and smoking without the aid of whisky than it would be without the aid of the tobacco itself. With greatly impaired health, each organ suffering from the poison circulating through it, this second poison is added, and the results of this double dose to the wrecked system can easily be imagined."

As superintendent of the Keeley Institute at Dwight, Illinois, Dr. C. L. Robinson has had large experience with the relation of the cigarette habit to other drug habits. He knows at first hand by direct observation, and his words must therefore have weight. He says: "It is the irritable condition of the nervous system that causes the restlessness, inability to concentrate thought, tremor, etc., which is so apt to cause the cigarette addict to seek relief sooner or later through the quieting, soothing influence of liquor, morphine, or other drugs. He is almost incapacitated for mental labor through inability to concentrate thought, and finding that one drink of liquor partially at least antidotes the nicotine and quiets and soothes his restlessness and irritability, he is gradually led into the double

addiction, liquor and cigarettes. Our experience here at Dwight, where many hundreds of cigarette cases have been treated, is that persons applying for treatment for both liquor and cigarettes dread giving up their cigarettes more than their liquor. Moreover, those who return to the use of cigarettes in after life are almost certain to resume the use of liquor to allay the irritability of the nervous system produced by tobacco smoke inhalation."

Probably no other man has made so exhaustive a practical study of drug habits and has attempted the cure of so many drug fiends in various lands as Charles B. Towns. Therefore, the following statement from him regarding the relation of tobacco to other drug habits is evidence of the best kind. He says: "For years I have been dealing with alcoholism and morphinism, have gone into their every phase and aspect, have kept careful and minute details of between six and seven thousand cases, and I have never seen a case except occasionally with women, which did not have a history of excessive tobacco. A boy always starts smoking before he starts drinking. If he is disposed to drink, that disposition will be increased by smoking, because the action of tobacco makes it normal for him to feel the need of stimulation. He is likely to go to alcohol to soothe the muscular unrest, to blunt the irritation he receives from tobacco. From alcohol he goes to morphine for the same reason. The nervous condition due to excessive drinking is allayed by morphine, just as the nervous condition due to excessive smoking is allayed by alcohol. Morphine is the

legitimate consequence of alcohol, and alcohol is the legitimate consequence of tobacco. Cigarettes, drink, opium is the logical and regular series.”¹

Let us now consider the relation of tobacco to the opium habit. Some experts regard the former drug as injurious as the latter, and however that may be, our habit is bad enough, so that loading it on foreign lands is an unpardonable shame.

The following is from the Western Christian Advocate for March 25, 1914: “Now it is announced by the big Anglo-American tobacco companies that they are to outline a new campaign of extension in opening new fields for sale of their products. A new slogan has been adopted: ‘A cigarette in the mouth of every man, woman, and child in China.’ Think of such an infamous resolution in the interest of commercialism! Now they will proceed to placard China with their display signs until by every highway, and over every corner, and in every window, and in every paper, and in every street-car, and in every waiting station, and everywhere tobacco signs will greet the eye.”

The following extract is from F. H. King, in his *Farmers of Forty Centuries*: “The eradication of the opium scourge must prove a great blessing to China. But with the passing of this most formidable evil, for whose infliction upon China England was largely responsible, it is a great misfortune that, through the pitiless efforts of the British-American Tobacco Company, her people are rapidly becoming addicted to the western tobacco habit, selfish beyond excuse, filthy

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beyond measure, and unsanitary in its polluting and oxygen-destroying effect upon the air all are compelled to breathe. It has already become a greater and more inexcusable burden upon mankind than opium ever was."²

We have quoted authority to the effect that tobacco is among the worst of drugs. Probably no other practical layman knows about this so well as Charles B. Towns, who uses these words: "If anyone thinks that China is the gainer by substituting the one drug habit for the other, I beg leave to differ with him. The opium smoker smokes in private with other smokers, and is hence not offensive to other people. He is not injuring non-smokers, or arousing the curiosity of boys, or polluting the atmosphere, or creating a craving in others. In the West the opium habit is generally condemned because the West is able to look with a new and unbiased mind on a drug habit that is not its own. I consider that cigarette smoking is the greatest vice devastating humanity to-day, because it is doing more than any other vice to deteriorate the race. The inhaler of tobacco gets his effect in precisely the same way that the opium smoker gets his—the rapid absorption by the tissues of the bronchial tubes. It may be news to the average man to hear that the man who smokes opium moderately suffers no more physical deterioration than the man who inhales tobacco moderately. The excessive smoker of cigarettes experiences the same mental and physical disturbance when deprived of them that the opium smoker experiences

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when deprived of opium. The medical treatment which is necessary to bring out a physiological change in order to destroy the craving is the same. The effect of giving up the habit is the same—cessation of similar physical and nervous and mental disturbances, gain in bodily weight and energy, and a desire for physical exercise. A like comparison, item for item, may be made with alcohol, but it is the similarity with opium which we wish to emphasize here.”³

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TOBACCO IN COLLEGES AND UNIVERSITIES

Institutions of higher learning have been leaders in many movements for the improvement of society, and the colleges and universities may yet take a prominent part in solving the tobacco problem. Enough statistics have accumulated to convince a considerable number of men in these institutions that the question needs further attention. Indeed, some of the best work has been done by college and university professors. However, since many instructors in these institutions have not studied the data carefully and are not likely to do so unless the matter is vigorously agitated, many who are interested would favor such a nation-wide study of the tobacco problem in institutions of higher learning as is now being advocated by certain eminent educators and some other workers.

Whether college or university administrations and faculties will, as a whole, willingly take part in a movement which will give tobacco its just deserts in these institutions, or whether the investigation must come from the outside remains to be seen. Facts already known, in way of reasonably safe scientific data, to say nothing of valuable expert opinion based on wide observation and experience, indicate that educators are slowly becoming cognizant of the need of proper treatment of this drug; and the larger the part that the

institutions play in the solution, the more final results will redound to their credit.

In May, 1912, Mr. Spencer Montgomery, then president of the Miami University Y. M. C. A., brought up, in a devotional meeting, the general problem of the use of tobacco by students in our institutions and suggested that the Y. M. C. A. should attempt some sort of investigation of the matter. A committee was appointed, and this committee, after working for one year, published in the college paper the results of studies of the grades of smokers and non-smokers. The relative grades were as follows: non-smokers, 108.2; light smokers, 103.3; medium smokers, 99.7; and heavy smokers, 77.7. It was the general opinion at the time that the character of men who would allow themselves to become slaves to a drug habit had quite as much to do with the rather surprising decrease in grades in proportion to the amount of tobacco consumed as did the injury caused by the use of the weed. Mr. Weston Walters was chairman of the committee of three seniors, which found results that were at the time thought to be unusual. However, the data presented herein from other colleges and universities and from public schools as well show that the report of this committee demonstrated just what would have been anticipated by persons well informed regarding the relationship between scholarship and the tobacco habit.

Former President Webster Merrifield, of North Dakota University, says: "The use of tobacco in all forms is strictly forbidden at the State University of

North Dakota, not only out of deference to public opinion in this State, but as the result of long observation of the evil effects of tobacco upon immature students."

Dr. Henry Churchill King, president of Oberlin College, says: "I am entirely clear in my own mind that the use of tobacco, at least by men under twenty-five, is to be vigorously opposed, partly in consideration of health, partly on considerations of intellectual development, and partly on moral considerations. Upon all of these points, so far as concerns especially the young, both expert authority and statistical evidence seem to me to be pretty decisive. And it has seemed to me especially unfortunate that the situation in many of our colleges is such as to show that the practice of smoking tends to become tyrannical as concerns even those who do not themselves wish to smoke, since it is plain that they are often made to feel that they are not coming up to what is expected of them, or that they are unsocial if they do not share the smoking habit."

In a recent address, Jenkins Lloyd Jones, the noted preacher, said of the college professor's responsibility: "A college president deplored to me the immense growth of the smoking habit among college students. 'What are you doing about it?' I said. The college president threw up his hands in helpless imbecility and said: 'What can I do about it when three quarters of my faculty smoke?' How can a boy feel the academic call to the ministry of religion, or any other form of spiritual consecration or ethical earnestness,

when the campus disintegrates the integrities of his youth, discounts the moralities of the home, and makes indulgent the sons of self-denying parents?"

Charles B. Towns, the expert on drug habits, says: "Many men were prejudiced against smoking until they went to college. There they found themselves 'out of it' because they did not smoke. More than that, they found that the smoke of social gatherings irritated their eyes and throat, and they thought that smoking might keep them from finding other people's smoke annoying." ¹ The words of this expert are doubtless true, and colleges where tobacco using seems necessary to popularity are poor places for the sons of parents opposed to this evil. Parents who place character before knowledge, and who think the tobacco habit a great evil, are justifiable in sending their sons to colleges that discourage or prohibit the use of tobacco instead of making it a prominent feature at social gatherings.

P. S. Wales, former surgeon-general, U. S. Navy, wrote the following: "After disastrous results from permitting the use of tobacco by the cadets at West Point, in 1881 the authorities prohibited smoking absolutely." October, 1896, Dr. Larned wrote: "My conviction of the unmingled benefits accruing to the graduates of the Military Academy by the prohibition of tobacco is absolute. Unquestionably the most important matter in the health history of the students at this Academy is that relating to the use of tobacco. I have urged upon the superintendent that the future

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health and usefulness of the lads educated at this school required the absolute interdiction of tobacco. In this opinion, I have been sustained not only by all my colleagues, but by all sanitarians in military and civic life whose views I have been able to learn."

George Elwers, a former student at the University of Wisconsin, says: "I know that any habit is hard to get out of; and that it is hard to indulge moderately in anything without going to excess. For these two reasons I have never started smoking. I have ample proof here at the University of Wisconsin that cigarettes are harmful, and that they do not help a fellow in any way. Since last October, when I entered the university, I have found only one fellow who sneered when I said, 'No, thank you, I don't smoke.' In the fraternity rushing I got in, and he was left out. Every girl that I have been intimate with has told me she was glad I didn't smoke. Many freshmen, in spite of their smoking, seem to get high standing, but when we look at the senior class, the best men do not smoke. Either they have cut it out, or they have dropped back in work." Probably the conditions found at Wisconsin by this student occur at most colleges and universities where tobacco is tolerated.

According to Lucy Page Gaston, superintendent of the Anti-Cigarette League, some fellow who is popular in college is often given a percentage from all cigarette orders taken from students. He is even given, for free distribution among students, various brands of cigarettes and thus helps to fasten upon the sons of parents

who object seriously one of the most harmful habits known among men. The man who obtains his college education in this manner is an offender against society, and the institution which does not use every means to prevent such a practice is not worthy of the boys that come from homes where high moral and religious principles obtain, only to be debauched while in college by a vile and debasing drug. The writer has no knowledge of this alleged practice, but he was informed on one occasion, by a senior who was acting as chairman of an entertainment committee, that a local firm had furnished cigars for free distribution at a meeting of all men of a certain college. The writer was at another time present at a gathering of college men, under the auspices of the institution, for the entertainment of the alumni, at which cigars and cigarettes were distributed free to all who would take them from the freshmen up. On inquiry, he was informed that the cigars and the cigarettes had been furnished free of charge by a local firm. This in no way excuses the institution, and it is the conviction of many thoughtful persons that colleges that cannot entertain their students and alumni without furnishing free tobacco, whether voluntarily or by imposition, might better not entertain them at all.

Dr. Winfield S. Hall, professor of physiology in the Northwest University Medical School, is responsible for the following: "Tobacco does much to undermine the success of young men. Why? Because it is the entering wedge of two lines of dissipation, either of which may defeat success. The first line is the dissi-

pation of money for things unnecessary. The second line of dissipation is sense gratification. One uses tobacco partly because of its flavor and partly for the sedative action which it exerts upon the nervous system. It is just this sedative effect which steals away a young man's vigilance and alertness and handicaps him in the struggle for success. The use of tobacco paves the way to other dissipation by requiring a compensating stimulant to overcome its sedative effect and by making common, wholesome food taste insipid and flat. A vast majority of drunkards were smokers before they were drinkers. The mental attitude and lack of resistance which permits a man to smoke is likely also to permit other forms of dissipation more destructive in their influence. Though many professional men use tobacco, I have yet to hear the first one advise a young man or a boy to begin its use." This statement is made by a man of high standing in the medical world, who has had large experience with college men.

The following is from the Journal of Education for March 17, 1914: "Dr. Arthur Dumont Rush, instructor of physiology in the University of Vermont, puts groups of medical students through various smoking experiments. His conclusion is that smoking reduces the mental efficiency of the smoker 10.5 per cent. There is damage done to muscle and brain, he finds; but nicotine does not do it, because he cannot find any in cigar and pipe smoke (his results differ from those obtained by others in this respect). Fifteen students, who had come from all classes and differed

considerably in physical characteristics, were chosen for the experiments. There was also an artificial smoking machine employed. The vapors were collected in receptacles and analyzed. Dr. Rush accepts the conclusions from experiments at Yale University that within half an hour after smoking a cigar the muscular power falls 25 per cent. He is chiefly concerned, however, with the effect on mental efficiency. All the instructor's subjects were requested not to smoke for several hours before beginning the test. The first was the 'E' test, before and after smoking. Twelve lines of capital letters, closely placed, were presented, and the students were required to cross out all the E's. This is a test which has been given by Professor Muensterberg and others. Another test requires the subject to say all the words which flow into his mind after a word is spoken to him which suggests a series. This is called the 'chain association.' One series of 120 tests on each of the 15 men, it is reported by Dr. Rush, shows that tobacco smoking produces 10.5 per cent decrease in efficiency of the brain. The greatest loss was in imagery, 22 per cent; so that the idea that smoke stimulates the fancy and that smoking makes the mind alert is not sustained by experiments."

We give below a table from the Ohio Wesleyan University, constructed by Dean W. G. Hormell, to show the relation of the tobacco habit to scholarship in 1911-12 and 1912-13. In this table 2 means an average of B, and 1 means below B.

	1911-1912			1912-1913		
	No.	Av. grade	Per cent using tobacco	No.	Av. grade	Per cent using tobacco
Seniors av. 2 and above.....	23	2.37	16	40	2.47	5
Seniors av. 1 and below.....	9	.76	44	14	.72	64
Juniors av. 2 and above.....	38	2.42	8	25	2.29	20
Juniors av. 1 and below.....	19	.73	58	10	.68	40
Sophomores av. 2 and above..	25	2.38	12	22	2.31	19
Sophomores av. 1 and below..	26	.61	70	38	.39	50
Freshmen av. 2 and above....	..	...	...	26	2.39	15
Freshmen av. 1 and below....	..	...	...	61	.49	40
Specials av. 2 and above.....	..	...	...	3	2.16	33
Specials av. 1 and below.....	..	...	...	19	.23	53

By summarizing the figures in the table, we find that 16 per cent of the high grades and $52\frac{3}{8}$ per cent of the low grades were obtained by the smokers, conversely, 84 per cent of the high grades and $47\frac{5}{8}$ per cent of the low grades were obtained by the non-smokers. This agrees with the results obtained in many other colleges and universities as given below.

The late Dr. Jay W. Seaver, who for many years made a close and accurate study of Yale students in relation to the use of tobacco, says: "Out of our highest scholarship men only a very small per cent (about five) use tobacco, while of the men who do not get appointments, about 60 per cent are tobacco users. The kind of mind that permits its possessor to become addicted to a habit that is primarily offensive and deteriorating is the kind of mind that will be graded low on general intellectual tests."

Dr. Seaver studied the effects of tobacco using

among Yale students for nine years. During this time, he found that smokers who entered Yale were fifteen months older than the non-smokers, but only weighed 14 kilos more than the non-smokers, who averaged more than a year younger. Though older, the smokers averaged .7 of a centimeter shorter and 80 cubic centimeters less in lung capacity. In a study of the men in a class at Yale, he found that the non-smokers gained over 10 per cent more in weight than the habitual smokers, 24 per cent more in height, 26.7 per cent more in chest measurement, and 77 per cent more in lung capacity.

Dr. George L. Meylan's study of Columbia students showed that the smokers had distinctly poorer scholarship. His results have been tabulated thus:

Classification of Students	Average marks at entrance	Marks during first two years	Failures during first two years
223 students.....	90 per cent	66 per cent	7 per cent
115 smokers.....	89 " "	62 " "	10 " "
108 non-smokers.....	91 " "	69 " "	4 " "

Dr. Edward Hitchcock, of Amherst College, says of Amherst students: "In separating the smokers from the non-smokers, it appears that in the item of weight the non-smokers have increased 24 per cent more than the smokers; in growth in height they have surpassed them 37 per cent, and in chest girth 42 per cent. In lung capacity there is a difference of 8.36 cubic inches (this is about 75 per cent) in favor of the non-smokers."

Professor W. P. Lombard, of the University of

Michigan, found that five cigars smoked on each of two four-day periods with a similar non-tobacco period between averaged to lower the working power of the muscles 41 per cent and often more. These results were obtained by careful experiments with the ergograph and have been recorded on a previous page with those reported by Dr. F. C. Walsh.

The tabulations from leading American institutions by Dr. F. J. Pack show the following data: "(1) Only half as many smokers as non-smokers are successful in the try-outs for foot-ball squads. (2) In the case of able-bodied men, smoking is associated with loss in lung capacity amounting to practically 10 per cent. Incidentally they show that smoking is invariably associated with low scholarship, and that smokers furnish twice as many conditions and failures as do non-smokers. Data relative to try-outs were received from six institutions as follows:

	Number Competing	Number Successful	Per cent Successful
Smokers	93	31	33.3
Non-smokers	117	77	65.8

"It will thus be seen that only half as many smokers as non-smokers were successful in gaining the coveted positions. But, though the difference in age and weight were both in favor of the smokers, in lung capacity the non-smokers of six institutions reporting showed an advantage of 22.6 cubic inches, as indicated in the subjoined table:

Number of Men	Average Weight	Average Age	Av. Lung Capacity
Smokers, 47	162.9 lbs.	21.06 years	286.3 cu. in.
Non-smokers, 61	159.6 "	20.88 "	308.9 " "
Difference	3.3 "	.18 "	22.6 " "

"The difference in favor of the non-smoker thus amounts to 7.3 per cent. It is worth noting that in not a single institution of the six reporting was the difference in lung capacity in favor of the smokers, the advantage with the non-smokers ranging from 5.8 to 37.7 cu. in."

In studying 201 men in Clark College from 1906 to 1909, Professor E. L. Clarke found results which may be tabulated thus:

	Habitual Smokers	Occasional Smokers	Non-Smokers
Numbers and per cent.	41, 20. %	52, 25.9%	108, 53.7%
Dropped college or took an extra year	51.6	25.8	22.6
Athletic honors	21.5	36.6	41.9
Scholarships, 54 students . . .	11.1	25.	68.4
Honors in both athletics and scholarships, 12 students.	16.6	25.	58.4

Mr. Clarke, in closing this report on smoking among Clark students, pointed out the fact that this habit goes with others tending to lower scholarship in which smoking is a vital part of the difficulty. The club room is a lounging place where smokers are tolerated. A man who dislikes tobacco is seldom seen there. He is, therefore, under little temptation to waste time. Hence, the smoker is the one who wastes the most

time around the college grounds. This is but one of the conspicuous examples leading to the conclusion that smoking is an indicator of other evils as well as being harmful in itself.

These Clark College records show that men who took up smoking after entering suffered two per cent in strength, one per cent in lung capacity, and 10 per cent in scholarship in comparison with those who remained non-smokers. So the cumulative and permanent effects appear shortly even in those who begin the use of tobacco after reaching college age.

The larger proportion of college students who smoke are those who have plenty of money. Consequently, they are often better nourished than the poorer students and may be heavier, not on account of the tobacco habit, but in spite of it. Because of their easy circumstances, they are more likely to have the desirable leisure and get into athletics, unless a sufficient number of poorer students, who have to work their way in part, have time for sports and such tests are applied as will give the positions to the men who are most fit. No one should be deceived regarding why smokers are sometimes as large as non-smokers and are often predominant in athletics in some schools where tobacco is popular.

Again, statistics which do not cover a whole student body are of little value unless they cover a considerable number of men selected by lot. Obviously, statistics secured from such men as may see fit to answer a questionnaire are of comparatively little value, unless nearly all students of an institution are involved. Since

the results of the tobacco habit are cumulative, statistics covering a freshman class are less valuable than those from upper classmen. Results obtained by studying all the men in a college or a university through a series of years are most valuable of all, and it is such studies as this that gives the strongest verdict against tobacco.

Colleges and universities see that their students hear lectures on ethics and morals, and do a good deal for their religious interests, but allow them to form a habit which is amply proved to be injurious in various ways, to lessen general efficiency, and to shut many out of desirable positions. This often happens without any serious attempt to inform students of the injurious effects of using tobacco. If some colleges and universities will not of their own accord put this matter and others that have to do with physical, mental, moral, and spiritual life ahead of learning, we believe that the sooner public sentiment requires them to do so, the better.

THE SMOKING MAN AND HIS INFLUENCE

What has appeared thus far has been, for most part, limited to consideration of tobacco from several points of view and to a discussion of the effects of the drug on boys and young men. It has seemed best to reserve treatment of smoking among men to the latter part of the considerations of the tobacco problem.

After going through the scientific evidence carefully, the writer is convinced that the experiments already noted are reliable, and that no man ever smokes or chews tobacco even once without temporary injury; but he knows quite as well that some men do not know that they are being permanently injured by repeated indulgence extended over a long period and would not be convinced by all the evidence that could be produced. Many others who know well enough that their efficiency and health are being slowly hurt by tobacco will not give up its use, though they believe much that is appearing from those who are best prepared to speak and write.

The task of writing on phases that concern men would seem more worth while if any considerable number of men could be induced to abandon tobacco. Though this is too much to hope for, it will surely be helpful to present some of the opinions and results of experiments obtained by those who have made a special study of the tobacco problem.

Dr. H. J. Kellogg, of the sanitarium at Battle Creek, Michigan, condemns the use of tobacco among men in the following strong terms: "It is one of the enigmas of modern life that the average business man, the man who demands the highest degree of efficiency in every department of his business, be it factory, store, or office, should continue to use tobacco, knowing that it is one of the deadliest of poisons and one of the worst of all enemies of mental power. It is astonishing that his business sense, his genius for economy, should permit him to consume so much of his energy in a perfectly useless and harmful way. Any man who stops to study himself, who inquires into the means by which he can conserve his vital energy and increase his efficiency, discovers that the first thing to do is to raise the load off his liver and kidneys and other organs; he discovers, for instance, that the work which his lungs are required to do in eliminating nicotine is far more than all the work involved in the digestion of food and the performance of intellectual labor, and if he is a wise man, he will drop immediately the use of tobacco."

Dr. Harvey W. Wiley, the pure food expert, says: "A man has not the shadow of a right to inflict unwholesome smoke and his vile breath on the community at large. There should be a strictly enforced law prohibiting smoking and chewing in public places, or on the cars where other persons are obliged to be."

Dr. C. E. Slocum says in his book on Tobacco and its Deleterious Effects: "No one has any right to flaunt his depravity and his depraving habit in public. No

one has a right to circulate on a street or elsewhere in public reeking with tobacco, much less puffing its smoke in the faces of others. Such bravados are becoming intolerably numerous. In business places, public offices, court houses, hotels everywhere, and restaurants, where free women and free men are obliged to go, it has become necessary to pass through an atmosphere vitiated by tobacco breaths and sputa. These are public outrages upon civilization that self-and-rights-of-others respecting men and women should no longer continue to endure meekly, as they have done in the past. The right of every one to pure air, unadulterated by tobacco or other deleterious odors, should be insisted upon by all clean people, forcefully if necessary.”¹

W. H. Allen, writing in *Civics and Health*, says: “It is selfish to intrude upon others a personal weakness or a personal appetite. It is selfish to divert from family purposes to ‘soothing excited nerves’ even the small amounts necessary to maintain the cigar or cigarette habit. It is selfish to run the risk of shortening one’s life, of reducing one’s earning capacity. Because the tobacco habit is selfish, it is anti-social and a nuisance, and should be fought by social as well as personal weapons, as are other recognized nuisances, such as spitting in public, or offensive manners.”²

Dr. T. H. Marable, of Clarksville, Tennessee, says in *The Medical Journal*: “The cause of cigarette smoking is that boys are very fond of imitating their elders.

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Smoking in public places ought to be discouraged. Every man, when he smokes in public, ought to think that he is encouraging some boy to smoke."

In an article entitled, "Why Boys Smoke," O. S. Davis says, in the *Scientific Temperance Journal*, regarding the responsibility of men for cigarette smoking among youths: "Boys smoke cigarettes because grown men smoke tobacco in all kinds of ways. They are imitating their elders and superiors in their efforts to be manly and grown up, as they regard it. The college man's pipe and the business man's cigar are incentives to the boy's cigarette and his first chew of tobacco. The force of the man's example cannot be overestimated in the influences that lead the boy to smoke. He is bound to try to do in his way what he sees grown men do in their way. Men ought to remember this when they smoke. They can endure the toxins in their mature bodies which will wreck the physical organism of the adolescent boy. It is very difficult to show the boy this fact, however; and he does to his lasting harm what the grown man sometimes may do without serious peril. Every man who smokes ought to reckon with the force of his example in this respect and ask himself if he cannot afford to give up a personal habit that is weighted with such serious possibilities to boys."

Men who smoke may well consider these words of Charles B. Towns, the noted expert on the effects of drugs: "Now, the boys who are certain to be injured by any form of tobacco, invariably smoke in the worst way that they can—that is, smoke cigarettes. How is

the father going to stop it? We all know with what force the indorsement of a hair-tonic comes from a bald-headed barber. A man cannot expect to have any influence with his son when he advises him not to do the thing he himself is doing. Every man advises his son not to smoke until he reaches an age where tobacco will not hurt him, though he himself has probably heard lately from his doctor that there is no such age. Though tobacco will injure a boy more than a man, it will also injure the man at any time during his life. When the father goes on to advise the boy to begin his smoking on pipe and cigars when he is grown up, his position becomes puerile. For he knows very well that almost no one begins on anything but cigarettes. The father who fills his house with smoke has, in a threefold way, created an appetite for tobacco in his boy; first, the boy has a disposition to smoke because his father does; second, because he is curious; and third, because his respiratory passages are already craving the excitation to which they have become accustomed. The smoking father, in forbidding his son to smoke, virtually drives him to sneak around the corner for a cigarette to experiment with on the sly.”³

Dr. J. R. Leadsworth says of the effects of the father's smoking: “Can it be supposed for a moment that in a home where tobacco fumes constantly permeate the rooms, such a powerful volatile poison would have no deleterious effect upon the mother and children who spend almost their entire time in such an atmosphere? Does it not seem reasonable that a

³ Published by permission from The Century Company.

child reared from the cradle under such conditions should present symptoms of nicotine poisoning even though it has never become a victim of the habit? But how few boys, when the husband and father is addicted to its use, escape the injurious habit? When we remember with what pride the boy looks upon his papa, and what interest he takes in a recital of the daily details of the parent's life—all of which proves to him that no other boy has such a father—it is reasonable to expect that he would be eager to follow his example even in this harmful practice. Too often the practice of smoking is taken up during the impressionable years of childhood and youth, with the result that the brain faculties never fully develop."

Dr. Leadsworth writes further of an eight-year-old boy who was ill and showed symptoms of severe poisoning. The boy, who never used tobacco, was subjected to sweating, and "his skin gave off a marked nicotine odor and stain." Regarding the father's responsibility, Dr. Leadsworth writes: "Further investigation elicited the fact that the boy's father was an inveterate smoker, and when at home kept the room saturated with tobacco fumes. The boy never touched the weed. But who can be surprised that the sensitive organism of the child, constantly absorbing such an atmosphere, succumbed to it? And who can estimate the multitude of children whose cheeks are blanched and whose bodies are frail, because of their father's indulgence in the poisonous weed?" Such cases could be multiplied many times.

The following regarding the relationship between

tobacco and good manners is from the pen of the well-known missionary secretary, Robert E. Speer: "I have seen many a boy and man, by nature courteous and thoughtful, who would never think of doing an ungentlemanly or rude thing intentionally, guilty nevertheless of the most heedless discourtesy and rudeness in the use of tobacco. Every morning as I get off the suburban train in the railway station, and walk down the crowded platform, I see both men and women dodging to one side or the other in order to escape the necessity of inhaling a cloud of tobacco smoke blown by a smoker into the face of any one whom he was confronting; but who, with no thought whatever of the interests or feelings of others, pollutes the air which they have to breathe. Many a fine-natured boy and man has been made coarse and boorish in this one regard of ignoring the sensibilities of others in the indulgence of this habit."⁴

Some people condemn the smoking man who confines his habit to his own private room, saying that he is doing just what the boy does when he sneaks around the corner to smoke a cigarette. However, the man who practices discretion regarding when and where he uses tobacco usually does so for a perfectly good reason, since the greatest temptation to young men comes from the fact that tobacco has become a social habit, in many places extremely tyrannical. When a really strong man appears before an assemblage of young men with pipe, cigar, or cigarette in mouth, he does that which is condemned by many of those who

⁴Published by permission from The Fleming H. Revell Company.

have studied the tobacco problem most carefully. The larger the number of men that break the habit the better, but the man who smokes helps the matter of education when he carefully uses discretion regarding when and where he smokes.

When, on the other hand, business men or their representatives parade streets with bands to attract attention and smoke pipes, cigars, and cigarettes, they are influencing the boys and helping to lower the character of human beings. Teachers should be among the last persons to tempt young men by public practice and private invitation, and many of them probably do so because they do not know the results of careful observation and research, some of which appear in these pages.

We cannot hope to influence many men to abandon a habit firmly fixed; but there are many users of tobacco who will lend their influence on the right side in the campaign of education. If an occasional man is induced to quit using tobacco, and the number of men who will aid actively in attempts to keep boys and young men from forming the habit can be increased, this part of the discussion will seem well worth while.

DIET AND THE TOBACCO HABIT

Women have shown great interest in the tobacco problem, and many of them will gladly consider any relation between household affairs and this great evil. Therefore, one may present more freely the facts regarding the manner in which women may have a very direct part in preventing the formation of the tobacco habit and in breaking it up when it is once formed. There is much literature dealing with the relation of food to drug habits; but we can consider only some of the best of that which bears upon the tobacco problem.

Many persons are slowly killing themselves by the food that they eat. Habits of eating need to be changed with change of occupation, with advancing years, and often with the formation of wrong habits. Elements of diet found to be injurious to the individual should be avoided. No doubt many men would lose their desire for drugs too, if they could be induced to change to the simple, nourishing elements of diet suggested below. In this the wife and mother may play a large part.

The woman who wishes to save her boy from drug habits or to help her husband to give up one or more already formed should remember that spicy, heavy, and highly seasoned foods usually go with such habits, while a plain diet, composed largely of cereals, fruits,

and vegetables, does much to destroy the desire for various drugs. She may well ponder carefully the words to follow from high authority.

Dr. C. E. Slocum says: "There can be properly healthful manhood and properly true and sure progress, only as mankind is fed on the plainest, most wholesome foods, and purest water; and the entire life, and action, strictly governed along the line of what is for the best. Poverty, misery, crime, and all the horde of other evils now existing can be banished only by giving children their proper heritage of sound health, and rearing them along this reasonable, most important, and obligatory line of sanity." ¹

The following is from Dr. D. H. Kress: "The editor of the London Clarion, England, relating his own experience, said: 'I was a heavy smoker for more than thirty years. I have often smoked as much as two ounces of tobacco in a day. I don't suppose I have smoked less than eight ounces a week for a quarter of a century. If there was one thing in life I feared my will was too weak to conquer, it was the habit of smoking. Well, I have been a vegetarian for eight weeks and find that my passion for tobacco is weakening. I cannot smoke those pipes now. I have to get new pipes and milder tobacco, and am not smoking half an ounce a day. It does not taste the same.' This is a testimony of value, since in taking up this diet he had no intention whatever of giving up the use of tobacco. While writing the above I received the following unsolicited testimonial from a former patient

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who has been addicted to both tobacco and strong drink for many years. His health being ruined, he found it necessary to apply for medical aid. He said: 'It seems wonderful to me, I have now no craving for tobacco or drink, and I also find that I have no need of drugs and patent medicine. I am enjoying excellent health. I must thank you for the kind help you have given me.' "

Mothers may well note some words from Dr. Lauretta Kress regarding the relation between food and tobacco. She says: "A most important factor, which may either deter or favor the formation of the tobacco habit, is the food furnished in the home. Irritating and highly seasoned foods produce irritability of the stomach and mind; and in consequence a desire is created for some nerve soother. Condiments such as pepper, mustard, spices, and a large amount of salt all produce irritability of the stomach, and this in turn creates a demand for narcotics. Rich foods do the same, also greasy foods, for the free fats usually undergo decomposition and produce irritating acids. A wise mother will strive to prepare for her family foods which are non-stimulating and non-irritating, and yet so attractive and palatable that they will be relished by all. Good sweet bread and cereals, fresh vegetables, sweet new milk and eggs, fresh fruit, or canned fruit, and so forth, make a non-stimulating diet which will not create a craving for either drink or tobacco. Since agreeable home life and wisely prepared foods act as preventives of the tobacco habit, the intelligent wife and mother can do much to aid husband or son in the

endeavor to give up the habit. Suitable non-stimulating beverages should replace tea, coffee, and cocoa. Nicely prepared meat substitutes should take the place of flesh food. The use of fruits should be encouraged. The one who can be induced to eat freely of fruits soon loses his desire for tobacco."

Again we quote Dr. Kress thus: "The intolerable craving for the after-dinner cigar is largely produced by the juicy beef steak, highly spiced food, and tea and coffee that compose the meal. Hence he who wants to be delivered from the tobacco habit should religiously avoid, for a time at least, such articles of food as produces a craving for tobacco. Why do men use tobacco? There certainly is nothing agreeable in it to the taste. It is repelled by the entire organism, and necessitates considerable perseverance to form the habit. There must be some cause or causes for its prevalent use. I am convinced that it is used for the same reason that alcohol is, because of its narcotic effect. Dietetic errors often pave the way to the use of tobacco. Being a narcotic, it allays the disagreeable symptoms arising from indigestion and dyspepsia. When the stomach and nerves are irritated by the use of mustard, pepper, spices, pickles, and incompletely masticated food, or by improper combinations which result in fermentation, tobacco, being a narcotic, is capable of producing partial anesthesia, and thus it affords relief from the disagreeable symptoms associated with the irritation; but being an irritant itself, when the narcotic influence has worn off, the aggravated condition created by its use makes a still louder

call for something that will again produce a partial state of anesthesia. This something may be found in tobacco, or it may be found in alcohol. For this reason tobacco and alcohol are intimately associated. Where one is, the other is apt to be found, for one naturally leads to the use of the other.

"I have found that a diet free from unnatural irritants will always result in a decrease in the desire for both tobacco and alcohol. I have never yet discovered a drunkard or an inebriate who was not passionately fond of spicy, highly seasoned foods and also of flesh foods. I have no doubt that one reason why these habits are so common is because dietetic errors are common. Several years ago the president of a city railway who was suffering from ulceration of the stomach came under my care for treatment. I soon ascertained that he was an inveterate user of tobacco. No doubt the symptoms accompanying the gastric irritation, which finally resulted in ulceration, called for the relief which tobacco furnished. He promised faithfully that he would give up its use. From the time he first began his treatment, his diet was simple and non-irritating. At the end of six weeks, he called at my office and said: 'Doctor, I have just returned from the city. On the way I passed a man smoking a cigar, and the smoke was actually offensive to me. I never thought such a thing possible.' His firm will and determination, combined with the aid received by a carefully prescribed diet, made it comparatively easy for him to give up its use. Another case was that of a patient who came to me suffering from chronic

dyspepsia of most distressing form, and who after two months' treatment completely regained his health, affirming that he could not smoke if he would. Still another who was weak in will power, after a day's trial, concluded he would make no further attempt to abandon its use. He however continued to subsist upon a diet of grains, fruits, and vegetables, which I prescribed, in order to get rid of rheumatism. Six months later, in relating his experience, he said, I gradually and unconsciously lost my relish for tobacco. At first I thought there was something the matter with the brand I was using, so I purchased another. But that tasted no better. I tried still another with similar results. It then dawned upon me that I had lost my craving for it.' For over three years he has used no tobacco, and probabilities are that he never will again."

We started with the statement that there is a close relation between food and drug habits and passed to views of experts to the effect that this is true of tobacco as well as other drugs. Plain food will certainly help much in the fight against tobacco and at the same time conduce to strong and honest manhood and womanhood. We can not hope that all members of society will abandon "high living," but it is not too much to hope that the tendency will turn toward care in the choice of foods and drinks if indeed it is not in that direction now. We may believe that a better day is dawning, and that a "survival of the fittest" will one day give us a race stronger because of its more temperate living—a race that will conquer tobacco and other drugs.

HOW TO COMBAT TOBACCO

The efforts of an individual here and there cannot make much headway against tobacco. Facts have been stated in order to stimulate to action many who believe that boys and young men should be saved from the use of tobacco. What has been presented can only aid in a battle which must be waged for many years. The people must be enlightened in every community, and public sentiment must be aroused before much can be accomplished. There must also be some organization to see that the public is kept interested, that meetings are held for discussion, and that proper laws are passed and enforced. There are persons in every community possessed of leisure and genius for organization, who could set forces in motion and keep them at work. Both local and state-wide organizations may well be affiliated with The Anti-Cigarette League of America.

A thorough study of the tobacco habit among boys has convinced Professor W. A. McKeever that prevention is the only way to cope with the evil. He writes thus: "Prevention is the only practical solution of the cigarette or boy-smoking question. Boys take up to the practice in innocence, just for fun, and are usually its victims before the matter is detected by their parents. Any normal, healthy boy will learn to smoke if thrown among young smokers without any caution

or restraint from those in authority over him. After parents discover the fault there is often a pathetic struggle, perhaps attended by many maternal tears, and then a compromise. That is, the boy tries in vain to quit and finally agrees to compromise on a pipe. But he will likely violate every rule of good conduct ever taught him by his parents before he will give up the habit entirely. But parents must learn more about the nature of this insidious habit and prevent its being taken up. The following methods of prevention are reported effective. (1) Begin to talk to the boy as early as his sixth or seventh year about the matter and make a strong appeal to his sense of honor. Do not be too insistent and threaten to inflict punishment, but indicate rather that you think him too worthy to take up such a practice. (2) Offer to set aside some material or pecuniary reward to be paid when he becomes of age, provided he continues his total abstinence, and add to his sentiment that he may then do as he pleases. Never ask the boy to pledge away in advance the years of his manhood. (3) Remind the boy in every possible way how much concern you have for his well being, how much you are willing to sacrifice for him, and how anxious you are to be true to him and to help him. He will then likely never break faith with you. (4) Keep in touch with the boy and know at all times his joys and hopes and aspirations. Be his companion and adviser and true friend, and he will respect your wishes in regard to him.”¹

Mary A. Hunt states that graded instructions will

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stop the cigarette evil. She says in part: "The only sure way of preventing cigarette smoking in the high school is to begin in the first primary grade to teach the boy with other laws of health, simple physiological reasons adapted to his capacity that show why he should not smoke, and continue this instruction as a more progressive study with new matter which gives each year more of the physiological reasons for abstinence from tobacco in all forms as well as for the observance of other hygienic laws. If this study is thus properly graded, it will be a progressive development and not a repetition and will send the boy to the high school, having been too well informed from the first to dull his brain or to limit his future possibilities by nicotine. The public school study of hygiene and temperance, which includes warning instructions as to the nature of tobacco and its effects upon the human system, is legally engrafted upon the public school system of this entire nation. This legislation began quite generally to go into force about fifteen years ago. If, during this time, school committees, school boards, trustees, and school superintendents had more generally made a place in the school curriculum for enough well graded lessons to cover the subject, say twenty per year in the primary and thirty per year in the grammar and first year of the high school, with good books in the hands of the pupils who have books in other studies, there would be fewer cigarette smokers to-day. To limit this instruction to the high grades is to wait until the mischief is begun. We cannot undo this wrong to the children in the past, but inno-

cent faces of the little ones in the primary grades appeal to us against the repeating of it in the future." Then follow statements from schools and towns where smoking among boys has been stopped by this method.

The following plan for cooperation of teachers and parents in eliminating the cigarette is copied from the School Physiology Journal and is worth trying. In a certain school this circular letter was sent to parents: "We desire to call the attention of parents to the fact that a large majority of the boys in this city are smoking cigarettes; that the boys who smoke are, on an average, one or two years behind the boys who do not smoke, and still farther behind the girls in the same grades; that the mental, moral, and physical condition of these boys is extremely deplorable and will certainly continue to grow worse unless the habit is stopped; that while the schools are insisting that this and all other unclean and undesirable habits shall not be practiced in or about our schoolhouse or grounds, still crowds of boys are seen daily around the saloons and loafing places of our streets, smoking, loafing, swearing, and cultivating other undesirable habits. We ask that parents cooperate with us in eliminating these conditions so far as possible, to the end that we may give our future generations of young men, not only an education, but healthy bodies, minds, and morals. We would ask parents to observe from the table given, that the cigarette smoker is already on his way to the conditions which indicate crime, trampdom, the jail, and general worthlessness. Memory goes first, closely followed by low deportment, low rank in studies, bad

physical condition, and general degeneracy. We would also point out to parents that while pupils are within our domain as teachers (the schoolyard and schoolhouses) there will be no smoking, and that while we shall do all in our power to discourage it anywhere, we are helpless to stop the difficulty without the personal cooperation of the parents, and we may as well add that we are unable to teach anything to the cigarette fiend, as his memory is a blank, his power to reason damaged, ability to study ruined, and usually his ambition to excel entirely gone. We would further point out to the parents of the boy who smokes that the desirable places in the business world are being rapidly closed to the cigarette smokers, and that already the banks, railroads, and many other businesses by which the ambitious young man expects to climb to fortune and success have closed their doors as tightly to the cigarette smokers as to the drunken sot. Why? Because the business world has found by experience, as we teachers observe continually, that the cigarette smoker is untruthful, deceitful, untrustworthy, and inefficient."

After quoting the circular letter, the journal continues: "This was plain talk, and it had an immediate effect. Within a few months it was estimated by the marshal of the town that seventy-five per cent of the cigarette smoking by boys had stopped, and the moral and industrial condition of the school was wonderfully improved. What had been called the worst school in the country was spoken of as doing good work. The school board raised the salary of the teachers and

principals twenty-five per cent. The people were pleased, and the improved condition of the boys was noticeable in their language, dress, manners, efficiency, and in their moral tone."

Professor Arthur Holmes, of the Pennsylvania State College, wrote thus in his paper on "The Psychology of Smoking": "From the attempt to get at the psychological causes of smoking, we have come upon an inkling or two for its prevention. The cure must be chiefly prophylactic or preventive. If imitation is the chief cause for beginning the practice among boys, then example should be eliminated as far as possible. If men did not smoke, boys would not. All the appeals and all the legislation possible, therefore, which would suppress the open and overt uses of tobacco are good. Herein women can play an important part by the rigorous exclusion, for the sake of their young sons, of smoking from their own presence and from the society which they control."

A recent issue of the *Northwestern Christian Advocate* has the following: "A movement of more than passing importance has been started in Kansas by the young women who have organized into a 'Good Habits Club,' the purpose of which is to decline the attention of any young men who drink, smoke, gamble, or use profane language. Reports come that in communities in other States the young ladies have adopted the program, and that already the effect is seen in a lessened indulgence in these needless and harmful vices. The young women must come to realize that they are a prime factor in the moral character of the young men.

The formation of one or more of these tabooed habits comes synchronously with a special regard for the opposite sex. As long as a young man is given to understand that his indulgence therein need in no way damage the favorable opinion of young women in general and one in particular, he will be inclined to persist therein. It is with the lessening moral sense of the young womanhood as much as with the willfulness of young men that responsibility must rest for the growing indulgence in the habits above mentioned. The young woman who permits a young man to blow cigarette smoke in her face without objecting or listens to conversation tinged with profanity without registering a protest is hardly the sort of a woman to undertake the lifework of conserving and culturing the moral character of a young man. The great majority of young men who to-day indulge in one or the other of these vices would cease to-morrow were such an edict to go from resolute young womanhood. Such an agreement adhered to would be the best insurance policy imaginable. May the 'Good Habits Clubs' spread all over the country."

Dr. D. H. Kress says, regarding means of getting rid of tobacco: "Reforms must be made by fathers and teachers who say in all their habits of life to those who look to them as examples, 'Follow me.' When this is done our educational and legislative efforts will be consistent and will appeal to the youth."

When we consider the baneful effects of tobacco and the stand that business often takes against it, it is not surprising that men sometimes fail to be appointed

as instructors in certain schools because they use the weed. The Nebraska Teacher says: "Some time no one will be permitted to teach in public schools or in normal schools or colleges who indulges in smoking.

. . . In Wisconsin, a movement has been inaugurated to discountenance smoking on the part of all persons, teachers or pupils, connected with high schools."

Superintendent J. K. McBroom, of the public school at Excelsior, Minnesota, gives the following results of some correspondence: "I wrote to the clerk of the school board of each high-school town and city in the State, asking these two questions: 1. If you were now electing a superintendent, would a candidate's use of tobacco tend to discredit him with the board? 2. Would it be a conclusive objection to him? I have received 123 replies. Of these, 80, or nearly two out of three, answered "yes" to both questions; it would tend to discredit him with the board, and it would be a conclusive objection to him. Only 18, 1-7, answered "no" to both questions. The rest answered "yes" to the first and "no" to the second, or in the case of three or four, were non-committal. Now that means that when the grand annual hustle of rearrangement and promotion takes place next spring, at only one place in three will the superintendent who smokes, even in moderation and seclusion—at only one place in three will he be considered at all; and only at one place in seven will he be considered on an equal footing with the other candidates." Superintendent McBroom also says that "Minnesota teachers might get after the college professors who use tobacco; and after the

college or university whose atmosphere is reeking with tobacco smoke." Nor is this all, for a nation-wide investigation of conditions in colleges and universities is being considered.

Whatever may be accomplished in time, for the present the fight for the boy and the young man must continue. Regarding this Dr. Arthur Holmes says: "For the nervous boy nothing in the world is better than a variety of health, invigorating, fresh air, outdoor, physically-fatiguing exercises. When such a boy, or any other boy, is given the five or six necessities of life like fresh air, a variety of well cooked, nourishing food, and abundance of clear, clean, water inside and out, eight hours of refreshing sleep, and plenty of play, he will almost certainly acquire such a physical, intellectual, and moral wholesomeness that his diseases and abnormal craving will disappear of themselves."

If the boy acquires the habit, something else may be necessary. The silver nitrate treatment may prove valuable in instances where boys and young men desire to be free from the habit. The treatment consists of swabbing the throat with a weak solution of nitrate of silver, accompanied by superintendence of diet for two or three weeks. This treatment is reported to be successful in most instances, but more experience with it is needed to make sure of its value.

The Anti-Cigarette League of America, 1119 Woman's Temple, Chicago, Illinois, will gladly give any community directions in organizing. This league is a strong organization, whose officers include men of practical insight and national or international repu-

tation. There is strength in union, and there is wisdom acquired from experience in this league. The league now has a half-million boys pledged against the use of tobacco and is working for as many again in the near future. A call has been issued to churches, Y. M. C. A's, other men's organizations, young people's societies, Sunday schools, woman's clubs, and other organizations. We can quote but a small portion of the call, as follows: "People of all ages and both sexes in increasing numbers are becoming devotees of the paper pipe. But it is among the youth that its blasting and blighting effects are most evident. No agency to-day is more productive of ills to mankind than the white robed, innocent-looking little cigarette. Striking as it does at the very fountain of life in the youth of the nation, the use of cigarettes is rapidly undermining American health and morals. Being a commercialized vice, the young, the weak, the unwary are the easy prey of blood-thirsty and conscienceless despoilers who are coining easy millions by the manufacture of cigarettes. The fight on the cigarette requires the rallying of all the forces of righteousness, and the Anti-Cigarette League of America is hereby issuing its call for a million recruits. A very simple plan of organization has been worked out, which it is believed will commend itself to all who are earnestly desirous of giving help. This plan is based on a pledged membership. A small fee is asked to help finance the stupendous undertaking of recruiting a million members in the immediate future."

Many States have anti-tobacco laws. Recently, bills

have been introduced into the legislatures of Wisconsin and Ohio, aimed at the use of tobacco in certain or all of its forms, by teachers as well as pupils in both public schools and all higher State-supported schools. Conviction against the use of tobacco is growing as the evil becomes more and more tyrannical and dangerous, and it may be confidently predicted that such legislation will go into effect in many States at no very distant day. Already, Kansas has an anti-tobacco law which prohibits the use of tobacco in any form by minors. This law may well serve as a model for State laws and city ordinances. The Kansas law is as follows:

“Section 1. It shall be unlawful for any person, company, or corporation to sell or give away any cigarettes or cigarette papers, or to have any cigarettes or cigarette papers in or about any store or other place for free distribution or sale.

“Section 2. Every minor person and every minor pupil in any school, college, or university, who shall smoke or use cigarettes, cigars, or tobacco in any form, or in any public road, alley, street, park, or other lands used for public purposes, or in any public place of business, shall be guilty of a misdemeanor and, on conviction, punished for each offense by a fine of not more than \$10, and every person who shall furnish any cigarettes, cigars, or tobacco, in any form, to such minor persons, or who shall permit such minor persons to frequent any premises owned, held, or managed by him, for the purpose of indulging in the use of cigarettes, cigars, or tobacco in any form, shall be guilty

of a misdemeanor and on conviction be punished by a fine of not less than \$25 nor more than \$100 for each offense.

"Section 3. Every person, company, or corporation violating Section 1 of this act shall be deemed guilty of a misdemeanor and on conviction shall be fined not less than \$25 nor more than \$100."

However much we may differ about the merits of certain statements made and some of the ideas quoted, the evidence as a whole shows the popular but iniquitous tobacco habit to merit the strongest possible opposition. Men are sometimes heard to say that there is another side to the tobacco question, but the writer knows not one strong argument in its favor. Arguments on the ground of sense gratification and social advantage seem to him pure sophistry when coupled with a habit that is amply proved to be one of the most dangerous to mankind. It seems perfectly safe to repeat that mankind will one day rise against tobacco and make it as unpopular as are now some other drugs. The sooner the fight against tobacco is won the better for us all.

SUMMARY AND CONCLUSION

Tobacco was investigated for the purpose of ascertaining the facts regarding its merits. It would have been a pleasant duty to defend it, and it has been a most unpleasant one to condemn a drug used by many men. However, in face of the overwhelming expert evidence against tobacco and the weakness of any possible argument in its favor, the writer is not disposed to write one word that might influence any person to use it.

We have noted the deplorable effects on boys and young men; have found the expert evidence to be overwhelmingly against the habit; have carefully considered the cigarette habit; have examined the relation of tobacco to delinquency and degeneracy; have looked into the opinion and the practice of business with respect to the tobacco habit; have studied statistics on the enormous and sinful waste of money on a worse than useless drug; have touched upon the tobacco habit among men; have shown how women can aid in keeping men and boys from forming the habit; and have considered some of the best means of combating tobacco.

The evidence presented will never be controverted as a whole, though some of the results of study are doubtless faulty. Should one go into an honest study of the question believing that the tobacco habit could

be upheld, he would soon find his error. When the world becomes fully aroused to the urgent need of fighting the tobacco evil, the tobacco industry may be expected to put forth arguments as spurious as those which the liquor interests have used. Many will be influenced by these arguments, but right will finally prevail.

With all the facts before us, no concluding words can adequately condemn tobacco. Conscience may be stilled by indulgence, and those who do not indulge may be hardened by contact with the habit. Yet all must suffer more or less for this useless and poisonous drug, whether user or non-user. It may well be doubted whether anyone who is handicapped by such a habit can attain the full measure of usefulness and possess so good an influence as he might have exerted otherwise. It appears like a strong statement to say that everyone who uses tobacco is, in this respect, an enemy of public welfare. Yet the facts regarding the effects of the drug justify this statement and admit of no milder one. Tobacco squanders resources, destroys health, depraves morals, blights manhood, makes paupers of laboring men, robs families, and is guilty of other offenses quite as evil. The college man and the upright and influential business man with pipe, cigar, or cigarette are sowing to the whirlwind, working injury to themselves, and by their example causing injury to many who come within their influence. Every periodical that carries tobacco advertisements is patronizing one of the greatest evils of all time and deserves to be boycotted by all who wish to help sup-

press tobacco. Every magazine article or novel that makes mention of the cigar, pipe, or cigarette is also helping the evil cause and deserves condemnation for carrying such matter. Though many excellent men, young and old, use tobacco, the habit is so detrimental that we may not expect to see any large proportion of those addicted to the use of the weed grow into a rich moral and spiritual experience not possessed before the habit was formed. The evolution is much more likely to be retrograde, as is abundantly proved by observation and by the results obtained by scientific study of the effects of tobacco. According to opinion and the evidence, there seems to be little choice between nicotine, morphine, cocaine, and opium. Jenkin Lloyd Jones says: "The Chinese have their opium joints and the American his clubhouse, where both absent themselves from the free intercourse with the world for a like reason; one to narcotize himself with opium, the other with tobacco." In aggregate results, nicotine is probably doing more harm to-day than is opium.

We have considered but a small proportion of the great mass of medical evidence against tobacco, nor can we attempt more than a brief summary here: Tobacco is commonly charged by the medical profession with producing general debility, indigestion, insanity, deafness, general nervous derangement, blood poisoning, heart disease, arterial deterioration, cancer, and many other diseases. By lowering resistance, it invites Bright's disease, apoplexy, tuberculosis, other infectious diseases, and many more pathologic condi-

tions. It stupefies the brain and weakens the will and the intellect. It may weaken any organ or any physiological action and cause or invite any disease.

How a God-fearing man, careful of his influence and desirous of working good instead of evil can take up the tobacco habit or even continue in it after he knows the facts regarding it is difficult to understand. How the Christian merchant can sell the weed after he knows its nature is quite as great an enigma. Certainly there can be no justification based on financial gain. Aiding the tobacco traffic can be only less subversive of the general good than engaging in it. The Master whom many of us strive to follow surely stands against this great evil. How can the Christian do less? Finally, every man who stands for the best things in morals, in religion, or in both must, if he knows the truth regarding tobacco, use his influence in aiding those who are fighting the tobacco habit.

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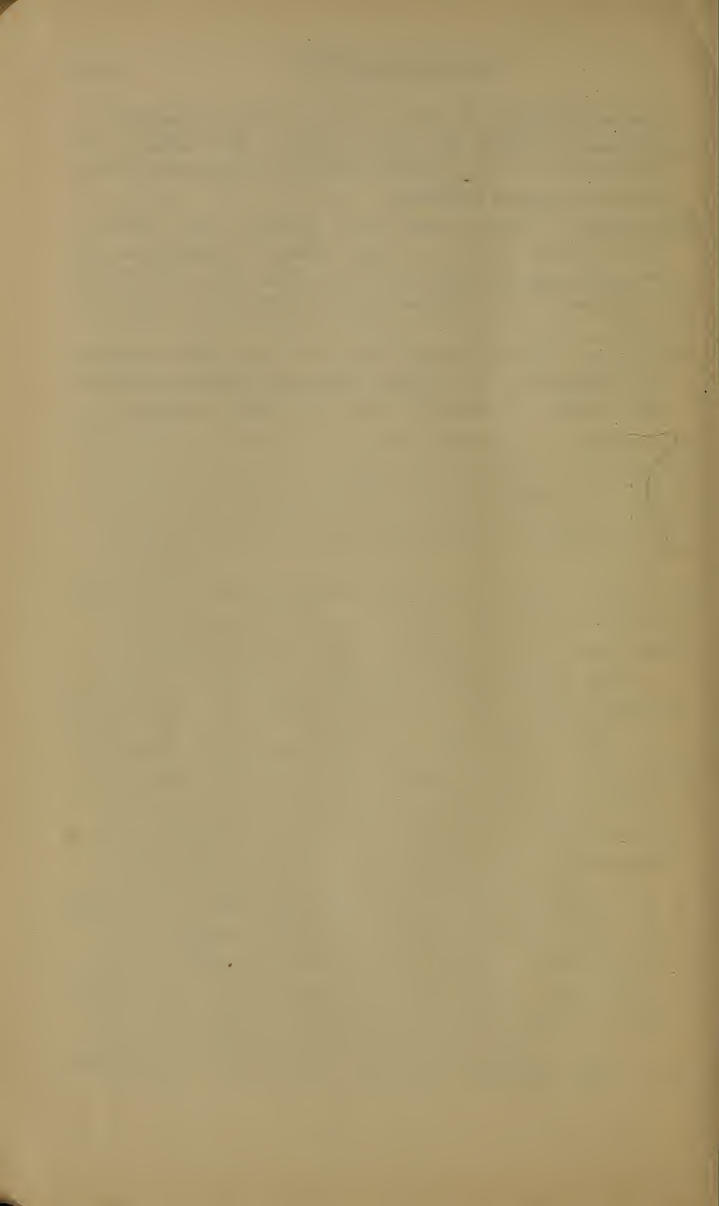
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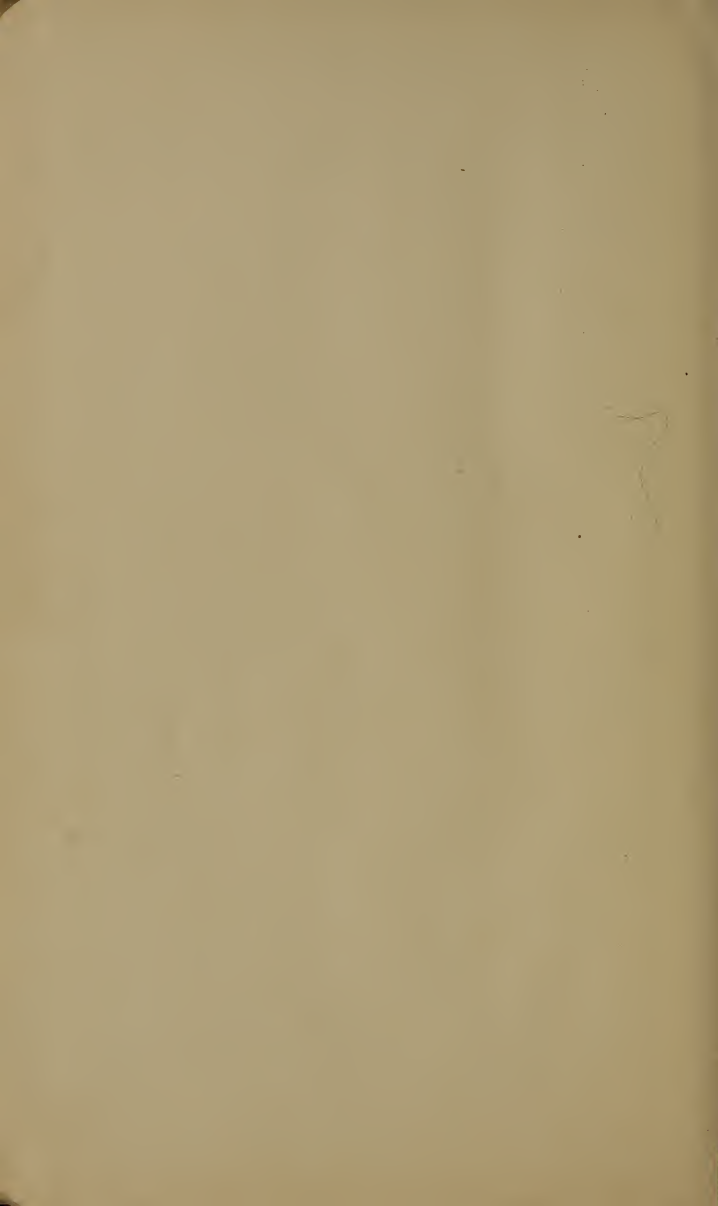
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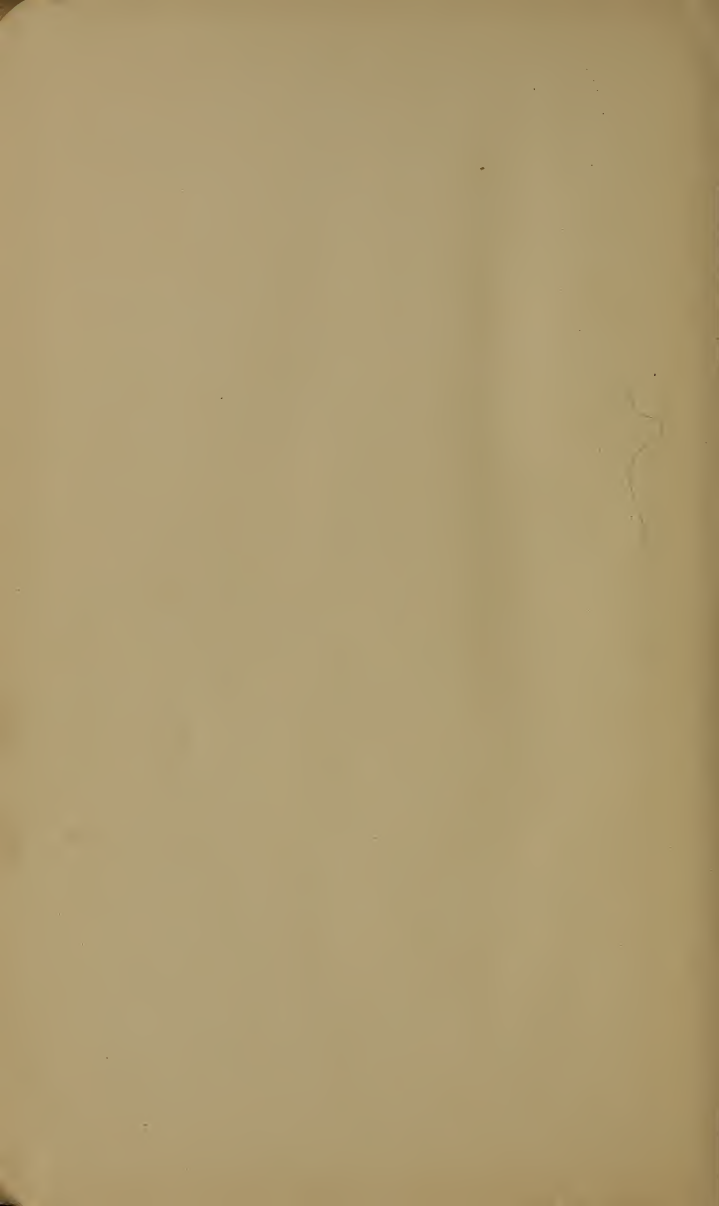
Various bulletins of this company contain valuable discussions regarding the tobacco habit. The bulletin for November 20, 1913, gives the data on the relation of the habit to expected mortality.

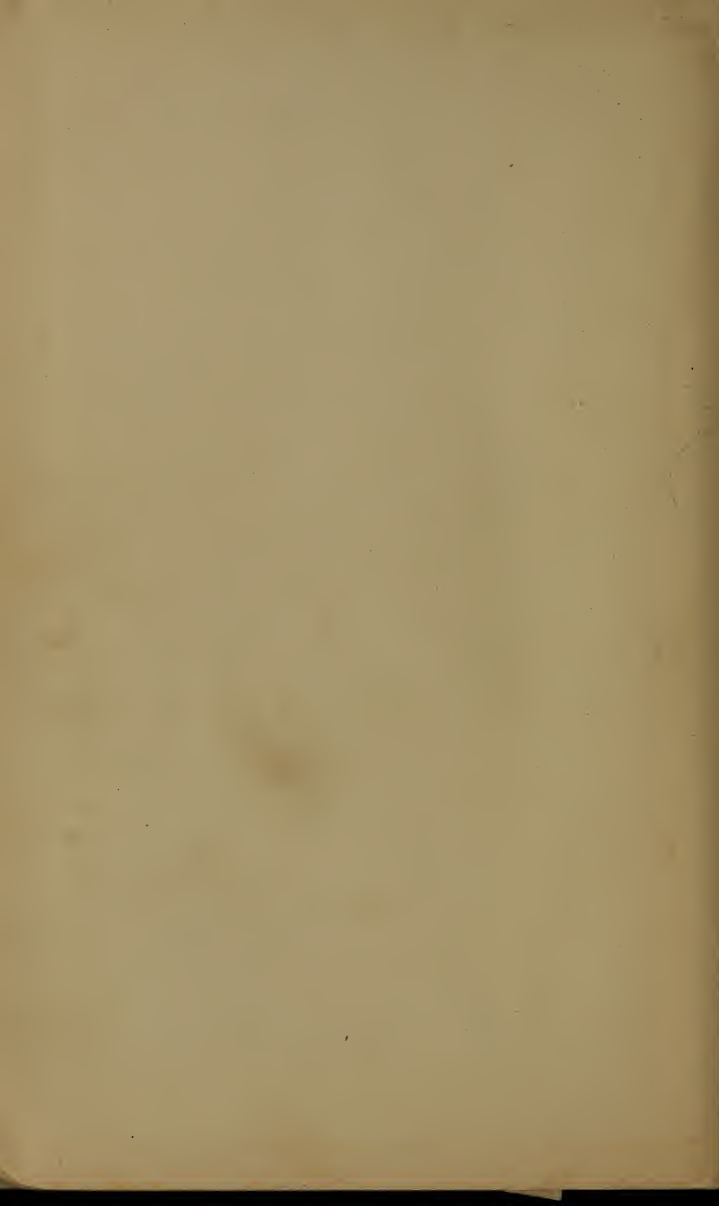
Anonymous. A Study of the Use of Tobacco. 1-5. Oxford, Ohio, Miami University, 1913. Mainly a compilation of scientific data arranged by Bruce Fink, with the aid of President R. M. Hughes, and a committee advisory to him.

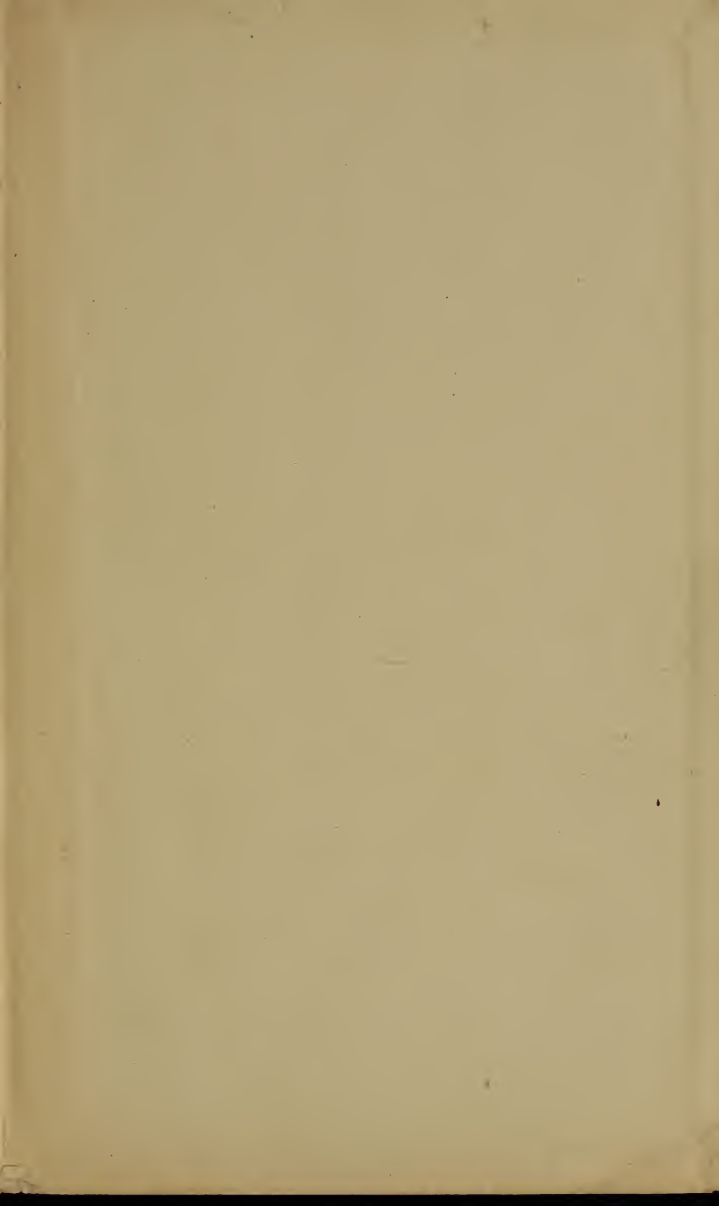
Anonymous. What Churches can do in the Fight against the Cigarette. 1-5. Chicago: The Anti-Cigarette League of America. A valuable article for church workers.











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